

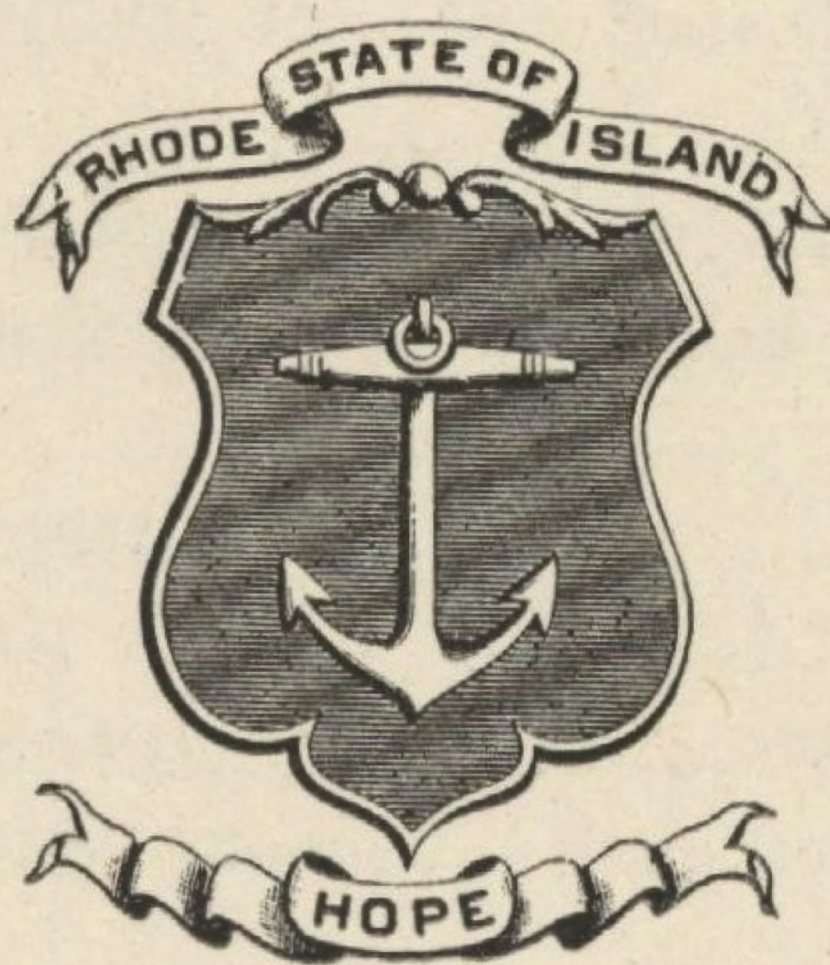
# BULLETIN OF RHODE ISLAND STATE COLLEGE

VOL. XIV NO. 4

FOR FEBRUARY 1919

---

## REPORT OF THE BOARD OF MANAGERS



KINGSTON, R. I.

1919

---

PUBLISHED QUARTERLY BY THE COLLEGE  
MAY, AUGUST, NOVEMBER, FEBRUARY

---

ENTERED AT KINGSTON, RHODE ISLAND, AS SECOND-CLASS MATTER

---

The Pawtucket Linotyping Co., Pawtucket, R. I.



## RHODE ISLAND STATE COLLEGE

---

### Corporation

HON. WALTER E. RANGER, *President*, State Commissioner of Schools,  
*ex-officio* ..... Providence  
HON. ZENAS W. BLISS, *Vice-President*..... Providence Co., Providence  
HON. ROBERT S. BURLINGAME, *Clerk and Treasurer*.....  
..... Newport Co., Newport  
HON. THOMAS G. MATHEWSON..... Gent Co., East Greenwich  
HON. CHARLES ESTES ..... Bristol Co., Warren  
HON. ROWLAND HAZARD..... Washington Co., Peace Dale  
HON. PHILIP A. MONEY, Member of State Board of Agriculture. Slocum

---

### Board of Visitors for 1918-19

MRS. RICHARD JACKSON BARKER..... Tiverton  
DUDLEY E. CAMPBELL ..... Newport  
MISS CAROLINE HAZARD, *Chairman*..... Peace Dale  
FRANK L. PIERCE, *Vice-Chairman* ..... Providence  
MRS. LENA FENNER DENNETT ..... Providence  
DR. CHARLES CARROLL, Ph. D..... Providence  
MRS. DAVID J. WHITE..... East Greenwich  
HENRY A. MARTIN ..... Barrington



# REPORT.

---

*To His Excellency R. Livingston Beeckman, Governor, and the  
Honorable General Assembly of the State of Rhode Island and  
Providence Plantations, at its January session, 1919:*

I have the honor to submit herewith the Thirty-first Annual Report of the Board of Managers of Rhode Island State College, as required by law.

WALTER E. RANGER,  
*President, Board of Managers.*



## REPORT OF THE PRESIDENT OF THE COLLEGE.

---

*To the Board of Managers of Rhode Island State College;*

GENTLEMEN: I have the honor to submit the following as my report for the year 1918.

### **The College Man as a Resource in War.**

The year has been greatly broken up so far as college work has been concerned. In this respect, indeed, our experience has been similar to that of all other educational institutions of the country. In the urge and necessity of the war, things have been done and methods have been adopted that were entirely unique in the experience of American colleges. But the net result has been that the colleges and universities have been recognized as never before as a great resource of strength and a bulwark of safety for the Nation in all times of stress and danger. In this war science and the trained mind have played an overwhelmingly important part, and it is to the universities and colleges that the Nation has had to turn for its supply of both. The Army and the Navy have recognized this from the very beginning, and the calls from them have been numerous and insistent. / More than ever, too, the administration of the affairs of the Nation, the work in shop and factory and on the farm, have called for the college man. And the call has not been in vain. Self-sacrificingly and efficiently the college man and woman have responded, and it is not too much to say that the Nation has been enabled to realize its peril, to recognize its duty, to organize its great resources, to put forth its conquering strength, and to save itself and the world from barbarism through the science and leadership that the institutions of learning have provided throughout the long years that have gone before.

Once and for all, the higher education in America has been brilliantly vindicated. / If there had been, during the years of peace no return whatever to the Nation for the large expenditures on our colleges and universities (and that there have been abundant returns year by year all thinking men are well aware), it would



have been well worth all the cost to have in its gethsemane of peril and agony, this great resource of intelligence and leadership which the institutions of learning have provided.

In a very real sense the colleges have proved a substitute for the large standing armies and navies which other nations throughout the years preceding the great war have maintained as insurance of safety. Naturally disinclined to militarism, busied with our own internal development, and looking upon ourselves as isolated and protected by the broad oceans that separate us from other lands, we had neglected the art of war and had refused to envisage changed conditions which we now recognize as threatening extreme danger to us. And when the danger did stand naked and revealed, when war actually did come, we then began to look around us to see what weapons of offense and defense we could seize upon. We had hardly the skeleton of an army; there were no stored up supplies of arms, artillery, ammunition, or supplies, we knew nothing of war in the air, and but little of war under the sea. The whole panoply of a great nation's military organization and equipment had to be created outright and at once. It was a discouraging outlook, and our enemies openly scoffed at our impotence.

But the survey of our resources did reveal one priceless possession—a relatively small but numerically large body of college men, keen of intellect, acquainted with nature and man, orderly and logical in their thinking, sound of ideals, trained to seize quickly on essentials, and ready and versatile in dealing with new problems. These it was that came to the rescue of the Nation. There were ready to hand vast masses of men to form an army. There were great resources of material to fashion into armament and equipment. There were workmen and tools and machines and immense stores of fixed and liquid capital to build the machines and accoutrements of war. But there was needed everywhere the leadership to organize, to direct, to coordinate, to fuse and energize all these unconnected possibilities and to do it in the shortest possible time. And it was the college man that organized and fused and energized these uncoordinated masses. He roused our conscience and will to action; he redirected our industries; he marshaled our wealth; he set tasks for our science; he rallied our workers; he officered, trained and led our armies; he concentrated all the great energies



of a great nation to the one great purpose of winning the war. The crisis demanded men of heroic purpose, of fine powers, of wide knowledge, of trained judgment, of daring originality, and of tremendous driving force—the highest type of the race. And the American College man was equal to the demand. He went into the field with the farmer and enabled him to feed the world. As chemist and physicist and engineer he made our industries. As economist, sociologist and statesman he organized our national life, and as soldier and leader he fought and bled and died on the fields of France.

### **Rhode Island State College in the War.**

In all this work this little college of twenty-five years' growth carried its full share. There are many that exceeded it in the number of the sons that they gave, the prominence that their men attained, the wealth of equipment that they offered, or the range of influence that they exerted. There are none that exceeded it in range and quality of accomplishment as compared with number of men and amount of resources at its disposal, in the fineness of spirit with which sacrifices were made, in the prompt readiness with which all that it had was devoted to the cause, or in the ratio of dreadful losses with which its sons proved their courage and devotion on the battlefield.

The college has always maintained military training. There has been much of antagonism to it, and for those in charge it has been no easy task to keep up interest and efficiency in the military work. Students said they were wasting their time at it. Parents frequently objected to it because they thought it morally wrong to train young men for war. Others called it child's play, and ridiculed it as having no place in a college curriculum. Like Noah of old we were building an ark for people who could see no signs of a flood, and they marvelled at our stupidity or mocked at our visionary prophecies, or openly laughed us to scorn.

But the great flood did come, a greater than even our visions had fore-warned us of, and there was bitter need for an ark. Naturally, the little this college could do in supplying men with military training was infinitesimal as compared with the tremendous need that was upon us. It is not wrong, however, and it is a comfort, to



reflect that our men were in demand, that they were more nearly fitted than were others to meet the demand, and that our policy was vindicated. And this was true, not only in military matters, but also and eminently in other lines of training peculiarly characteristic.

Against threatened internal disorder at the very beginning of the war the college could offer and did offer a body of 250 men, organized, trained, equipped, and ready to hand for military service.

At the call for greater food production, it placed in the field from among its faculty and students one hundred and twenty-two workers, many of them specially trained and fitted for direction and leadership in the work. It was ready to furnish and did furnish trained workers for problems in engineering and in the bacteriological and chemical laboratories of great war councils. Its faculty were busy in the constabulary and state guard, in state and national committees and commissions and research councils.

### **Record of Rhode Island College in the Army and Navy.**

While the work at home in the war was equally as important and necessary as the work in the army and navy, yet it was not to be expected or desired that any body of red-blooded young men and women should not be largely represented in the trenches and on our battle-ships. Indeed, the communities and organizations most zealous and efficient at home were precisely those who were most largely represented in army and navy, and the record of military service was an index and measure of home activities less spectacular and less capable of tabular enumeration, while equally necessary in the final result. This college takes great pride, therefore, in the sacrifices and achievements of its young men who went out to meet battle and death.

So far as we have been able to gather the facts, the college was represented by three hundred and two men in the actual military service. In addition there were an unascertained number of men and women in army hospital work, in munitions factories, in army investigational work, and in the ranks of the Y. M. C. A. Of **this** 301, there were commissioned a total of one hundred and forty-one, or  $46\frac{1}{2}$  per cent. The non-commissioned officers were twenty-seven in number, and the privates numbered one hundred and



thirty-four. As indicative of the character of the military service rendered, it should be stated that twenty-three men lost their lives in the service, and ten were seriously wounded, a total major casualty list of over ten per cent. In addition several were more or less seriously gassed, and one was invalided home from the battlefields of France. Seven men were cited for bravery, one receiving three citations; one received the D. S. C., and two the French war cross. Two were on torpedoed vessels and were finally rescued from the water where many others perished. Several were in German prisons, one of them escaping under extraordinarily adventurous conditions. One had a remarkable escape from death in the air, and one died the saddest of deaths as a wounded prisoner in a German camp. A tabular statement of service is presented below. Of the 269 members of the Student Army Training Corps at the college none, except those who were transferred to army camps or returned here from army camps, is included in this table or in the foregoing statements.

RHODE ISLAND STATE COLLEGE MEN IN ACTUAL MILITARY SERVICE.

RANK.	Army.	Navy.	Marines.	Totals.
Majors .....	2	.....	.....	1
Captains .....	15	.....	4	19
1st Lieutenants .....	33	.....	1	34
Ensigns .....	.....	18	.....	18
2nd Lieutenants .....	68	.....	1	69
Sergeants .....	18	.....	.....	18
Corporals .....	9	.....	.....	9
Privates .....	90	41	2	133
Total .....	233	59	8	301

The foregoing record does not need comment. In unmistakable language it tells its own story of loyalty, devotion, sacrifice, efficiency, training and courage. The story must not be allowed to perish. The college is poor in physical wealth and resources; it numbers among its friends few of high position, large possessions, or powerful influence, but it has here evidence of a wealth of capable service, of high sense of duty, of heroic sacrifice that must



forever be preserved as its most cherished tradition, and that compels the gratitude and respect of the people of our State. Somewhere, somehow we must preserve this story in imperishable stone and bronze.

**Names of Student Soldiers who Lost Their Lives and of Those who were Seriously Wounded in the Great War.**

In memory of a gallantry, devotion and sacrifice that has been surpassed never and nowhere—neither in the classic stories that loom large and vague on the far horizon of history, at Marathon or Thermopylae; nor in the romantic pages of middle-age chivalry and mysticism, at Tours or Roncesvalles; nor in the grim records of European dynastic and territorial struggles, at Leipzig or at Waterloo; nor yet again by our fathers and forefathers at Saratoga or Yorktown, at Antietam or Gettysburg—: in loyal gratitude for the splendid college traditions of service that these men have hallowed with their blood; in loving personal remembrance of glorious young American manhood which it has been my privilege to touch and influence, I here set down in this permanent record of the college the names of those of our faculty and students who in the great war of the Nations gave up their lives or whose broken bodies are a sacrifice daily renewed to the cause of liberty and justice.

**Faculty Member.**

Paul E. Corriveau, Instructor in Horticulture, First Lieutenant, U. S. Marine Corps, killed in action, France.

**Students.**

Robert Harris Barker, Private, Infantry, U. S. Army, killed in action, France.

Henry Harold Barrows, Private, Infantry, U. S. Army, died of wounds in France.

Donald Ellsworth Carlton, Candidate, Officers' Training Camp, Aviation Section, killed in accident in England on aviation field.

Wallace Charles Craig, Naval Reserve, died of pneumonia in Chelsea Naval Hospital, Feb. 11, 1918.

Edwin Baker Davis, Private, Students' Army Training Corps, died of influenza, Rhode Island State College.

Rowland Sever Dodge, Second Lieutenant, Infantry, killed in action, France.



John Henry Fernandez, Corporal, Infantry, U. S. A., died of wounds in France.

Lloyd Harold Gledhill, Sergeant, Infantry, U. S. A., wounded in action and died as prisoner of war in Germany.

Edwin Matteson Greene, Private, Infantry, U. S. A., Tacoma Park, died of influenza, Radio School, Md.

William Frank Hanlin, First Lieutenant, Infantry, U. S. A., killed in action, France, Oct. 7, 1918.

Marchmont Hayward, Private, Ordnance Department, U. S. A., killed in accident, Midland, Mich.

Beverley Shibley Lake, Chief Mechanic, Battery A, 103rd Regiment, 26th Division, gassed, died in France of bronchial pneumonia, March 12, 1919.

Alexander Farnum Lippitt, First Lieutenant, Infantry, U. S. A., died of wounds incurred in action in France, in hospital in New Jersey.

Marcus George Mullins, Private, Infantry, U. S. A., died of influenza, Camp Devens.

Chester Arthur Olsen, Candidate, Officers' Training School, died in hospital at Plattsburg, N. Y.

David Adam Redford, Second Lieutenant, U. S. Marines, killed in action, France.

George Searle Shepard, First Lieutenant, Infantry, U. S. A., killed in action, France.

Harold Manning Spaulding, Seaman, U. S. Naval Reserve, died of pneumonia, Newport, R. I.

Irving Smith Tillotson, Private, Infantry, U. S. A., killed in action, France.

Preston Wayland Towne, Corporal, Coast Artillery, U. S. A., died of influenza, Fort Washington.

David Lamson Wood, First Lieutenant, Infantry, U. S. A., killed in action, France.

Fred Mansur Woods, Private, Infantry, U. S. A., died of pneumonia in France.

Harold Congdon Anthony, Second Lieutenant, Infantry, U. S. A., wounded in France, October, 1918.

Walter Brighton Davis, Second Lieutenant, Infantry, U. S. A., wounded in France, summer 1918.

Wilfred Ross Easterbrooks, Private, Field Artillery, U. S. A., injured while acting as motorcycle dispatch bearer.



George Howard Fleck, First Lieutenant, Infantry, U. S. A., wounded in France, September, 1918.

Harold Pearson Gibson, First Lieutenant, Infantry, U. S. A., wounded in France, September, 1918.

Alfred Patrick Kivlin, Second Lieutenant, Engineers, U. S. A., wounded in France.

Albert Alphonse LeBoeuf, First Lieutenant, U. S. Marines, wounded in France, October, 1918.

Harold Quentin Moore, Second Lieutenant, Infantry, U. S. A., wounded and gassed in France, July, 1918.

Franklin Hoxsie Springer, Second Lieutenant, Infantry, U. S. A., twice wounded in France, July and September, 1918.

William Havens Wood, Private, Field Artillery, U. S. A., wounded in France, October, 1918.

### **The College as a Military Camp.**

Another phase of college effort in connection with the war was the utilization of the grounds and buildings from May 1 to October 1 as a military camp for training soldiers as mechanics; and the establishment of a unit of the Student Army Training Corps running from October 1 to December 20.

Early in 1918 letters were sent out by the Vocational Education Board in behalf of the War Department, stating that mechanics of all kinds and in enormous numbers were needed by the army then in process of creation; that these mechanics were not to be had, were not in existence, in fact, and had to be created, along with thousands of other needs, by a process of intensive training. It was represented that the only places in the country where the appliances, facilities, and equipment necessary for setting in motion such intensive training were the college and university plants thruout the various states. Above all, the need for haste was emphasized and the colleges were urged to place their facilities at once at the disposal of the Government.

Our student body, which commenced the year 1917-18 in September, 1917, with 251 students, had already been greatly depleted by the beginning of the year 1918, and it seemed in our power to render considerable service to our country by undertaking the work proposed, even though it involved large sacrifice in the way of an



entire dismantling of our existing organization and equipment and the installation of new appliances, equipment and teaching force.

Accordingly, with the approval of your Board, arrangements were made and a contract was entered into. The regular work of the college year 1917-18 was forced ahead, and brought to a close April 28, 1918, the commencement being held on that date and a senior class of twenty-five being graduated.

By May 7, the college plant had been readjusted, a teaching force consisting of five of our original college faculty and thirteen master mechanics taken from the trades had been assembled, a corps of five army officers and three assistants had arrived and been installed, with offices and office equipment assigned; a hospital had been fitted up, necessary barracks and storerooms provided, shops had been set up and teaching equipment, such as trucks, automobiles, engines, tools, lumber, steel, etc., had been installed, and an adequate commissary department had been organized. No pains nor necessary expense were spared to prepare for the duties undertaken. On that day the first unit of 252 men arrived.

The men were raw recruits drawn from New Jersey by various draft-boards and sent here directly from their homes. These men remained for eight weeks and were then distributed to various army camps. Their places were immediately taken by a second unit of 263 men, recruits of the same kind as the first and taken from Massachusetts. This unit remained here in whole for eight weeks and in part until September 25, the War Department apparently having lost cognizance of a remnant of 73 men left here after the removal of the main body of the unit.

The total number of men passed through training here was 515. The work consisted of training for automobile mechanics and drivers (205 men), carpenters (143 men), electricians (84 men), machinists (42 men), and blacksmiths (41 men).

The success of the work was rendered difficult by the failure clearly to make plain to officers and men the main purpose of the camp. Indeed the War Department itself seems to have oscillated between the idea of using the college plants as overflows from the army camps for the military training of soldiers, and that of training men for mechanics' work in the army. It was frequently stated that the idea was to make the men soldiers first and mechanics



afterwards. Consequently, the men got the impression that the teaching work was of minor importance. Indeed, to accomplish the task of taking a bank clerk or a stevedore and making of him *either* a soldier *or* a carpenter would have demanded *all* his time for eight weeks and more. To accomplish both in the time set was out of the question. The officers were naturally determined that the soldier-training should not suffer, because their own standing and advancement depended on success in this part of the work.

Moreover, the divided authority presented great complications. The men were regularly enrolled soldiers of the U. S. Army under assigned officers of the army, and these officers were quite jealous of their authority, openly repudiating anything like orders to their men from instructors or anyone in charge of grounds or equipment or buildings. Friction was, therefore, frequent and the maintenance of discipline in classes very difficult.

We cannot therefore flatter ourselves that achievement coordinate with the sacrifices made or the money expended was obtained. Nevertheless, we had the satisfaction of knowing that we had undertaken the work that needed to be done and had carried it to whatever degree of success was possible under the difficulties encountered. At least we had not spared ourselves nor that which we controlled in advancing the common cause.

### **The Student Army Training Corps.**

Concluding our Mechanic Unit work September 25, we undertook new war work with the War Department organization known as the Student Army Training Corps on October first. At that time, also, we undertook to begin the college year for 1918-19. As I shall have occasion later to explain, however, we shall in our college records regard this college year as beginning January 2, 1919, and terminating June 28, 1919.

The Student Army Training Corps was an effort on the part of the War Department to apply the methods of the Mechanic Units to the training of officer material, in such a way that the college student might divert his college training to war purposes while at the same time learning the art of war, and the duties of a soldier and officer. The students were regularly enrolled privates in the U. S. Army or Navy, and were under the charge of army officers.



We began the new arrangement with a new set of officers, less insistent on their authority, more ready to cooperate with the college officers, and more thoroughly imbued with an appreciation of the value of instructional work.

The method of selecting these students was also conducive to the establishment in their minds of a proper respect for the teaching corps and a readiness to conform to teaching requirements. Men applying for admission to the S. A. T. C. sent on their high-school records to the college registrar's office, where they were admitted or rejected in accordance with college entrance requirements. On admission they were physically examined by the army medical officer and, if accepted by him, were inducted in the usual way into the U. S. Army and assigned to duty.

To prepare for the opening on October 1, another entire readjustment of the college premises had to be made; tools and appliances used in the mechanics instruction had to be removed and stored and college apparatus and appliances had to be reinstalled.

On account of the influenza prevalent at that time, the actual reception of students was deferred from the time set, October 1, to October 10. As a matter of fact, however, while many other places suffered severely from the influenza, it troubled us but slightly, comparatively speaking, and my feeling was that it was not necessary to delay the opening. The military department deemed it best, and notice was hurriedly sent at the last moment to all enrolled students.

Our difficulties with the S. A. T. C. proceeded from frequent and repeated changes in requirements as to the courses of study. No settled policy was determined upon and adhered to, and the division finally established into classes for men twenty years old, classes for men nineteen years old, and classes for men eighteen years old, together with requirement of certain subjects of all these classes was subversive of effort at serious academic work in college courses. Some work was done here and there by individual students; but the situation was such at the time of the Armistice and the consequent disbanding of the organization that it seemed best to the faculty on beginning the year January 2, 1919, to recom-



mence all academic work and to declare that no degree credit could be given for time spent in the S. A. T. C. except for military work and other work in individual cases to be considered one by one.

The attendance on this term, commencing theoretically October 1 (Actually October 10) and ending December 12, was as follows:

Students enrolled as members of the S. A. T. C.....	268
Male students under eighteen, hence ineligible to the S. A. T. C.....	32
Female students .....	44
	<hr/>
	344

### **The College Year 1918-1919.**

As has been already stated, it has seemed best to have the academic record for the current college year begin on January 2, 1919, and run until June 28 of the same year.

The idea and purpose of this arrangement is to enable returning soldiers from the various camps and others who may have been restrained from entering college during the war, to begin the college year now and as far as possible to complete it by July 1. Those not able to do essential work of the year during that time will be given opportunity during July and August to make up deficiencies. Thus the whole body of students will be able in September, 1919, to begin the year 1919-20 without deficiencies, and the war will not have caused the loss of a whole year to the returning soldier.

### **Attendance During 1918-1919.**

The enrollment October 1, 1918, for the S. A. T. C. was, as already stated, 268. Of this number, one hundred and five, or 39 per cent, failed to return on their own expense at the opening January 2. I find that in other colleges the losses ran as high as 50 per cent or more. In truth, a large part of the young men enrolling in the S. A. T. C. had neither the desire nor the aptitude for a college course. They came into the colleges because they saw in the S. A. T. C. an avenue of approach to an officer's commission in the army, and being subject to the draft, anyhow, they came into the college army instead of going directly to the army camps. When the maintenance and pay of the army were withdrawn and they were discharged, they had no inclination or were not financially able to make any sacrifice to obtain a college education.



The tables of attendance, therefore, with the exception of the first, take no cognizance of students not registering in the term beginning January 2, 1919.

## COLLEGE ATTENDANCE.

TABLE No. I.

Showing Attendance by Classes During the Years From 1917-1919.

CLASSES.	1917.	1918.	1919.
Graduate Students .....	6	2	2
Seniors .....	38	25	32
Juniors .....	51	46	43
Sophomores .....	94	65	48
Freshmen .....	122	98	125
Irregular .....	8	7	5
Total, college .....	319	243	255
Two-year courses .....	17	8	.....
Student Army Training Corps.....	.....	.....	268
Total .....	.....	.....	523
Names repeated .....	.....	.....	121
Two Mechanic Units.....	.....	.....	402
Final Totals .....	.....	.....	515
			917



**TABLE II.**  
 Showing Number of Men and Women, of New and Previous Matriculates,  
 and Number in the Several Courses by Classes, for Collegiate  
 Year 1918-19.  
 (After Jan. 2, 1919.)

CLASS.	SEX		DATE OF MATRICULATION.		REGISTRATION IN COURSES.				
	Men.	Women.	Previous to 1918-19.	1918-19.	Agriculture.	Engineering.	Applied Sci.	Home Econ.	Total.
Graduates .....	.....	2	1	1	.....	.....	2	.....	2
Seniors .....	24	8	32	.....	7	17	.....	8	32
Juniors .....	33	10	43	.....	7	21	5	10	43
Sophomores .....	37	11	47	1	7	26	8	7	48
Freshmen .....	108	17	4	121	12	76	21	16	125
Irregulars .....	4	1	3	2	.....	2	2	1	5
Total (College) .....	206	49	130	125	33	142	38	42	255

### HOME RESIDENCE OF STUDENTS

#### A. Resident outside of the State:

Connecticut . . . . .	7	New York . . . . .	1
Massachusetts . . . . .	25		
Total . . . . .			33

#### B. Resident in the State by Counties and Towns.

Bristol County:		East Providence . . . . .	10
Barrington . . . . .	5	Johnston . . . . .	1
Bristol . . . . .	6	Lincoln . . . . .	3
Warren . . . . .	3	North Providence . . . . .	1
		Pawtucket . . . . .	10
	14	Providence . . . . .	90
		Scituate . . . . .	2
Providence County:		Smithfield . . . . .	2
Central Falls . . . . .	4	Woonsocket . . . . .	12
Cranston . . . . .	8		
Cumberland . . . . .	2		145



## Newport County:

Little Compton .....	1
Newport . . . . .	8
Portsmouth . . . . .	1
Tiverton . . . . .	1
—	
	11

## Kent County:

Coventry . . . . .	1
East Greenwich .....	3
Warwick . . . . .	3
West Warwick .....	2
—	
	9

## Washington County:

Hopkinton . . . . .	4
North Kingstown .....	5
Richmond . . . . .	2
South Kingstown .....	18
Westerly . . . . .	14
—	
	43

Total for Rhode Island.....222

Grand total .....255

## Entrance Statistics for Class Registering in 1918.

Total enrollment of class.....	125
Entering with condition of one-half unit, required work.....	22
Entering with condition of one unit, required work .....	18
Entering with condition of one and one-half units, required work.....	4
Entering with condition of two units, required work.....	3
Entering with condition of two and one-half units, required work.....	1
Entering with condition of three units, required work .....	1

Total with conditions ..... 49

Of these, number credited with total of 14 units or more.....	34
Of these, number credited with total of 13½ units.....	6
Of these, number credited with total of 13 units.....	8
Of these, number credited with total of 12½ units.....	1

Total entering without condition..... 76

Average age of men and women at entrance,

Oct. 10, 1918, was.....	18 yrs. 11 mos. 10 days
Age of youngest member of class, Oct. 10, 1918.....	16 yrs. 5 mos. 10 days
Age of oldest member of class, Oct. 10, 1918.....	22 yrs. 28 days

## School Represented in Registration of Freshman Class.

## In Rhode Island:

Barrington High .....	1	Cumberland High .....	1
Bristol, Colt Memorial.....	5	East Greenwich Academy.....	1
Cranston High .....	7	East Providence High.....	8



Newport, Rogers High.....	3	In Connecticut:	
Pawtucket High .....	2	New London, Bulkeley .....	3
Providence—Classical High....	8	West Hartford High .....	1
English . . . . .	4		—
La Salle Academy.....	1		4
Morris Heights .....	1	In Massachusetts:	
Technical High .....	37	Bridgewater High .....	2
South Kingstown High.....	4	Boston—English High .....	1
Warren High .....	2	College High .....	1
Westerly High .....	7	Brockton High .....	5
West Warwick High .....	4		—
Woonsocket High .....	2		9
—		In New Hampshire:	
98		Kimball Union Academy.....	1

## SUMMARY.

Received from high schools.....	112
Transferred from other colleges .....	2
Repeating freshman subjects from previous year.....	11
	—
Total.....	125

## Finances.

Up to May first, when the work of the college year 1917-18 was terminated, the finances of the college were taking their normal course, with the exception that the withdrawals to enter the army and for other causes connected with unsettled public conditions were decreasing receipts for board, tuition, dormitory and other fees, while the expenses for labor and materials were increasing by leaps and bounds. Financial difficulties after that date were greatly increased by expenditures to make readjustments, to buy new and very costly equipment, to procure mechanics teachers at salaries far beyond ordinary wages because of the necessity for taking them from industries that were paying unheard-of prices for skilled labor, to meet needs arising from entirely new and unforeseen conditions, and to carry out contracts with teachers that under new conditions could not be utilized at the work for which they were engaged.

A further difficulty lay in the fact that the War Department could not definitely state its needs and was unable to name a definite price other than the promise of a specific per capita payment and a subse-



quent adjustment of costs. Responsible agents of the Government urged the assumption of undertakings which other responsible agents subsequently repudiated. It is extremely difficult, too, to separate expenses incurred directly on account of army service from other expenses indirectly connected which would not have been incurred but for this service.

Beginning with May first and running to December 31, I have made an earnest effort to separate expenses that would have had to be made, had there been no assumption of control by the United States Government, from those which it seems to me are consequent upon and conditioned by the army service rendered during the eight months of such service, with the following result:

**Statement of Receipts and Expenditures Incident to Maintenance of Mechanics Units May 1 to Oct. 1, 1918.**

(Two units totaling 515 men.)

Operation and maintenance of college so far as concerns premises used for the war work and salaries of officers and teachers whose services were directly utilized.....	\$21,041 56
Outside instruction procured for these specific purposes.....	6,936 54
Tools, machines and material provided specifically and only for mechanics' instruction . . . . .	14,180 42
Boarding and housing . . . . .	21,318 50
Total.....	\$63,477 02
Payments by United States under contract.....	56,315 65
Loss . . . . .	7,161 37

**Statement of Receipts and Expenditures Incident to Maintenance of Unit of S. A. T. C. October 1 to December 1, 1918.**

Unit enrolling 269 men.

Total college enrollment 345.

Total cost of operation and maintenance of instructional work of college, including housing and board of all students.....	\$41,196 14
Cost as above for 269 students out of a total of 345 (in the ratio of 269 to 345) . . . . .	32,111 29
Receipts from United States under contract.....	16,804 23
Loss . . . . .	15,307 06

The total expense to the State, therefore, for the conducting of this war work has been \$22,464.43, and on comparing contracts



entered into by the Government with endowed institutions with the contracts entered into with State institutions, we find that it seems to have been intended to cause State funds to bear a part of the cost.

On the other hand, it is to be borne in mind that had it not been for the utilization of the colleges by the Government, there would have been few or no students to instruct because of the draft extending from eighteen years upward. The expense of maintaining grounds and buildings in order would have continued without any return. Contracts with officers and professors would have been either repudiated or their salaries would have continued without labor return from them, and disorganization and distress would have resulted in any event.

Notwithstanding mistakes, strain and stress on officers and teachers, and financial cost to the State, we feel proud that the college was permitted and enabled to make its full contribution and take its full share in the great work of winning the war.

#### **Patriotic Loyalty and Sacrifice of our Faculty and Students.**

It is a source of pride to us that from 1914 on, our college has been loyal and true to high ideals of America's duty and needs. At no time has passivism or selfishness or false conceptions of policy or disloyalty to the finest traditions of Americanism been evident among us. I take great pride personally in noting that present results and conditions have vindicated every public utterance of mine since the very beginning of the great war in 1914. While at first these utterances stood in strong contrast with those of many leaders of thought among us, and before April, 1917, were seriously questioned and once or twice openly and even bitterly attacked, in the end the views that I espoused have been generally accepted, and not I but others have had to change their views.

The college has shown itself "one hundred per cent American" in its contributions to the various war service organizations, mainly the Red Cross, the Y. M. C. A., the K. of C., and the Salvation Army. We have no adequate record of the totals contributed, but we know that the contributions went beyond allotments. Besides purchases made through other channels, there were taken through the college office Liberty Bonds of the four issues amounting to \$14,450.



### Changes in the Faculty.

In 1917 the total number of officers in the Faculty, including teaching staff, officers of the Experiment Station, and Extension workers resident at the college, was 51. At the opening on January 2, 1919, the same total was 38. The resignations were mainly in order to enter on some phase of war work. The comparative numbers are cited merely to indicate that coincidently with the reduction in attendance of students a more than corresponding reduction in the faculty took place.

Especially to be noted are the following changes:

L. W. Boardman, professor of English literature, resigned to enter the Y. M. C. A. service abroad. Prof. Boardman is now an official of the "Khaki University," being appointed superintendent of a unit in France.

Captain W. E. Dove was relieved by the War Department of his professorship in Military Science and Tactics and transferred first to Columbia University and subsequently as S. A. T. C. commandant to St. Viator's College, Bourbonnais, Illinois. It is a pleasure to note that at the opening of the new year in January, Captain Dove was, at our earnest request, reappointed to his old position here.

F. H. Smith, assistant professor of chemistry, resigned to take a war service position as chemist with the DuPont Powder Co. at Wilmington, Del.

Physical Director James Baldwin resigned to enter the Y. M. C. A. work as physical director, and is now engaged at Nice, France.

Miss Alta M. Bailey, formerly head of our women's dormitory, is now dean of women at Beaver College, Pa.

Mr. W. C. Irons, assistant in field experiments, resigned to go to an officers' training camp, where he was commissioned second lieutenant.

Two appointments were made during the year. Mrs. Lillian L. Peppard was appointed professor of domestic art. Mrs. Peppard comes to us from the Michigan Agricultural College, from which she obtained the bachelor's degree, and where she was employed as an instructor. She received the degree of Master of Science from Chicago University in 1917. She has also had summer work in Columbia University, New York. At the time of her transfer to



this institution, she was director of the clothing and textile section of the Home Economics department of the Michigan Agricultural College.

Mr. C. E. Brett was elected from a school in Lawrence, Pa., to the position of instructor in poultry here. He is a B. S. of Rhode Island State, class of 1913.

### Needs of the College as Presented to the Legislature.

The following schedule of immediate needs was agreed upon by your Board for presentation to the General Assembly:

1	An appropriation in addition to and supplementary of the amount appropriated two years ago (and still unexpended) for the purpose of housing the Departments of Agriculture and Home Economics . . . . .	\$25,000
2	For repairs . . . . .	10,000
3	For increase of salaries . . . . .	5,000
4	For enlargement of the teaching of farm management and markets into a department as per recommendation of the Governor....	5,000
5	For the purchase of land . . . . .	10,000
6	For maintenance of the Experiment Station.....	2,000
7	For maintenance of the Extension Service.....	2,000
Total.....		\$59,000

It was agreed that number one of these items should be put into a separate resolution, while the remaining six items should be incorporated into a second resolution. It was further agreed that an Act should be drawn up amending the organic law of the college so as to increase the annual appropriation for maintenance from forty to fifty thousand yearly, the act to take effect January 1, 1919, so as to continue items three and four after the current year. These resolutions and the act mentioned were introduced accordingly and are now before the General Assembly. A mimeographed explanation of the measures has been circulated. Briefly—Item 1 is due to increased cost of construction. Item 2 is required for immediate necessities. For five years and more no appropriation for repairs has been made. Item 3 is due to increase in cost of living. Item 4 is made necessary for teaching as to distribution problems which are assuming paramount importance in New England. Item 5 is a request that has appeared for some years with



monotonous regularity and without avail so far. No one who knows the conditions will for a moment dispute the merit of the item. Items 6 and 7 are imperative and are due to increasing costs for all labor and material.

### **Acknowledgments of Aid.**

At the opening in October and consequent upon readjustments, we found that the women's quarters in South Hall were greatly in need of furniture. Such college funds as were available were used for fitting up these quarters; but still the social room of the women students was quite scantily furnished. Noticing this, the Chairman of our Board of Visitors, Miss Caroline Hazard of Peace Dale, quietly proceeded out of her own resources to provide for the needs of the young women, giving them furniture to the value of several hundred dollars. We desire here to acknowledge our obligations to her for her quick perception of the need and her ready generosity in helping to meet it.

The Federation of Women's Clubs has again offered to the young women a scholarship of \$50. This scholarship was recently awarded by a committee from the women of the Faculty and from the Triangle Club of Kingston to Miss Ruhama Nichols of Slocum. It is a great encouragement to have this practical and substantial evidence from the organized women of the State of serious, intelligent and generous interest in our young women, and we hereby express our appreciation and thanks.

### **The Experiment Station and Extension Service.**

I shall not comment on the work of the Experiment Station and Extension Service, except to say that the Experiment Station has managed to continue its experimental work and has taken on special problems where possible; and the Extension Service, through the generous financial cooperation of the Department of Agriculture, has been able, while working in close and friendly association with the State Food Administration under Mr. Coates, immensely to enlarge its operations and to extend its benefits to every part of the State.

The report of the Director of the Experiment Station and that of the Director of the Extension Service are hereto appended.



### Commencement.

As noted elsewhere, the commencement was quietly held on Sunday, April 28. A class of 25 was graduated. At that time the public outlook was exceedingly dark. The forces of the Central Empires in Europe were making their last great military effort and our allies were everywhere outnumbered and outfought. Our own armies were beginning to arrive in numbers on the scene, and news of losses among them were already arriving. My address on the commencement occasion was entitled "A Civilization in Peril." It was intended to emphasize the tremendous importance of the cause for which we were fighting and to nerve our people to courage and readiness for the sacrifices impending.

It may not be immodest in me to mention that this address and that of 1916, entitled the "Legacy of the Fathers," received the high honor of approval from Congressman Stiness and, on his motion, they were printed in the Congressional Record.

All of which is respectfully submitted.

HOWARD EDWARDS,

*President.*



## REPORT OF THE TREASURER.

R. S. BURLINGAME, TREASURER, *in account with the different funds of RHODE ISLAND STATE COLLEGE, for the year ending December 31, 1918.*

### MORRILL FUND OF 1890 AND NELSON ACT OF 1907.

1918.

Jan. 1.	To balance on hand.....	\$25,365 98	
July 1.	To U. S. Warrant for year ending June 30, 1919.....	50,000 00	
Dec. 31.	By instruction . . . . .	\$44,344 91	
	Apparatus . . . . .	678 36	
	Tools and machinery . . . . .	43 47	
	Live stock . . . . .	2,040 00	
	Feed . . . . .	2,331 10	
	Text books and reference books.....	233 91	
	Seeds . . . . .	46 28	
	Laboratory supplies . . . . .	773 10	
	Periodicals . . . . .	287 61	
	Binding . . . . .	76 00	
	Miscellaneous . . . . .	88 69	
Dec. 31	Balance on hand . . . . .	24,422 55	
		<hr/>	
		\$75,365 98	\$75,365 98

### MORRILL FUND OF 1862.

1918.

Jan. 1.	To cash from landscript fund.....	\$2,500 00	
Dec. 31.	By instruction . . . . .	\$2,500 00	
		<hr/>	
		\$2,500 00	\$2,500 00

### SMITH-LEVER FUND OF 1914.

1918.

Jan. 1.	To balance on hand . . . . .	\$5,366 07	
	U. S. Warrant year ending June 30, 1919.....	10,764 10	
Dec. 31.	By salaries . . . . .	\$5,694 03	
	Postage, telephone and express.....	60 80	
	Seeds, plants and supplies.....	278 45	



## RHODE ISLAND STATE COLLEGE.

Stationery and printing .....	678 74	
Traveling .....	1,948 93	
Scientific apparatus .....	4 26	
Furniture and fixtures .....	1,222 70	
Labor .....	68 85	
Tools and machinery .....	19 66	
Library .....	9 26	
Publications .....	59 68	
Balance on hand .....	6,084 81	
	<hr/>	<hr/>
	\$16,130 17	\$16,130 17

## STATE—MAINTENANCE FUND.

1918.

Jan. 1.	To State appropriation .....	\$40,000 00	
Dec. 31.	By salaries .....	\$8,005 09	
	Labor (janitor, farm, etc.) .....	7,695 73	
	Traveling .....	883 44	
	Postage, stationery and printing .....	1,119 42	
	Construction and repairs .....	3,002 40	
	Fuel .....	13,416 98	
	Feed .....	1,481 47	
	Rental of dormitories and land .....	828 99	
	Oil and gasoline .....	915 28	
	Commencement .....	124 97	
	Stable and auto supplies .....	442 54	
	Furniture and fixtures .....	8 98	
	Horseshoeing .....	44 00	
	Janitors' supplies .....	10 55	
	Tools and machinery .....	238 92	
	Fertilizer .....	865 65	
	Seeds .....	128 45	
	Advertising .....	132 52	
	Electric current furnished .....	57 68	
	Miscellaneous .....	596 94	
		<hr/>	<hr/>
		\$40,000 00	\$40,000 00

## CURRENT FUND.

1918.

Jan. 1.	To reserve fund .....	\$2,000 00
	Dormitory fees .....	6,916 33
	Department fees .....	3,810 45



## REPORT OF THE TREASURER.

29

	Department sales . . . . .	27,800 68	
	Department service, including receipts from War Department for expense incurred for Training Detachment . . . . .	44,165 88	
	Interest . . . . .	992 61	
	Tuition . . . . .	525 00	
Dec. 31.	By balance overdrawn . . . . .	\$1,774 02	
	Salaries . . . . .	5,982 82	
	Labor (janitor, farm, student) . . . . .	22,029 81	
	Traveling . . . . .	753 76	
	Postage, stationery and printing . . . . .	629 45	
	Construction and repairs . . . . .	7,302 00	
	Fuel . . . . .	2,043 71	
	Feed . . . . .	731 60	
	Freight and express . . . . .	647 70	
	Advertising in publications . . . . .	725 12	
	Entertainment . . . . .	71 07	
	Telephone and telegraph . . . . .	874 21	
	Oil and gasoline . . . . .	1,068 84	
	Apparatus . . . . .	1,153 15	
	Horseshoeing . . . . .	37 25	
	Stable and auto supplies . . . . .	163 23	
	Furniture and fixtures . . . . .	703 34	
	Tools and machinery . . . . .	5,831 74	
	Rental of dormitories . . . . .	2,266 03	
	Refunds . . . . .	1,182 48	
	Janitor supplies . . . . .	326 77	
	Books . . . . .	23 69	
	Fertilizers . . . . .	438 80	
	Seeds and plants . . . . .	42 32	
	Laboratory supplies . . . . .	2,617 99	
	Electric current furnished . . . . .	620 24	
	Miscellaneous, including expense in- curred for Training Detachment . . . . .	21,813 79	
	Reserve fund . . . . .	2,000 00	
	Balance on hand . . . . .	2,356 02	
		<hr/>	
		\$86,210 95	\$86,210 95

## TRUST FUND.

1918.

Jan. 1.	To balance on hand . . . . .	\$ 36 82
	Boarding receipts . . . . .	27,329 01
	Store receipts . . . . .	4,800 41



Amount overdrawn . . . . .	2,327 29	
By boarding . . . . .	\$29,476 31	
Store . . . . .	5,017 22	
	<hr/>	<hr/>
	\$34,493 53	\$34,493 53

## HATCH FUND.

1918.

Jan. 1.	To United States check for quarter.....	\$3,750 00	
	United States check for quarter.....	3,750 00	
	United States check for quarter.....	3,750 00	
	United States check for quarter.....	3,750 00	
Dec. 31.	By debit from last year .....	\$1,156 52	
	Salaries . . . . .	5,435 10	
	Labor . . . . .	3,594 05	
	Publications . . . . .	243 93	
	Postage and stationery .....	233 87	
	Freight and express .....	177 37	
	Heat, light, water and power.....	153 66	
	Chemical supplies . . . . .	10 09	
	Seeds and plants .....	449 57	
	Fertilizers . . . . .	1,137 17	
	Feeding stuffs . . . . .	371 43	
	Library . . . . .	198 98	
	Tools, implements . . . . .	224 45	
	Scientific apparatus . . . . .	6 35	
	Furniture and fixtures .....	11 35	
	Traveling expenses . . . . .	1 48	
	Buildings and land .....	131 65	
	Balance on hand .....	1,462 98	
		<hr/>	<hr/>
		\$15,000 00	\$15,000 00

## ADAMS FUND—EXPERIMENT STATION.

1918.

Jan. 1.	To United States check for quarter.....	\$3,750 00	
Apr. 1.	To United States check for quarter.....	3,750 00	
July 1.	To United States check for quarter.....	3,750 00	
Oct. 1.	To United States check for quarter.....	3,750 00	
Dec. 31.	By debit balance from last year.....	\$1,646 35	
	Salaries . . . . .	5,905 89	
	Labor . . . . .	3,024 07	
	Publications . . . . .	10 00	
	Postage and stationery .....	82 99	
	Freight and express .....	21 56	



# REPORT OF THE TREASURER.

Heat, light, water and power.....	224 89	
Chemical supplies . . . . .	214 94	
Seeds, plants . . . . .	126 54	
Feeding stuffs . . . . .	1,935 88	
Library . . . . .	5 78	
Tools and implements . . . . .	186 75	
Furniture and fixtures . . . . .	135 87	
Scientific apparatus . . . . .	37 13	
Live stock . . . . .	180 41	
Traveling expenses . . . . .	4 94	
Contingent expense . . . . .	1 82	
Buildings and land . . . . .	68 59	
Balance on hand . . . . .	1.185 60	
	<hr/>	<hr/>
	15,000 00	\$15,000 00

## MISCELLANEOUS FUND—EXPERIMENT STATION.

1918.

Jan. 1.	To balance on hand . . . . .	\$5,091 06	
	Department sales . . . . .	4,134 21	
	Department service . . . . .	358 53	
	Interest . . . . .	112 79	
	By salaries . . . . .	\$1,713 88	
	Labor . . . . .	2,530 98	
	Postage and stationery . . . . .	52 89	
	Freight and express . . . . .	201 66	
	Library . . . . .	180 91	
	Tools and machinery . . . . .	279 31	
	Chemical supplies . . . . .	84 61	
	Fertilizers . . . . .	185 70	
	Heat, light, water and power . . . . .	383 04	
	Live stock . . . . .	28 50	
	Traveling . . . . .	84 96	
	Furniture and fixtures . . . . .	24 98	
	Buildings and land . . . . .	100 13	
	Seeds, plants . . . . .	444 97	
	Feeding stuffs . . . . .	1,210 81	
	Contingent expense . . . . .	10 00	
	Balance on hand . . . . .	2,179 26	
		<hr/>	<hr/>
		\$9,696 59	\$9,696 59



## SUMMARY, EXCLUSIVE OF EXPERIMENT STATION.

## Total income, including balances:

United States—1890 .....	\$75,365 98	
United States—1862 .....	2,500 00	
United States—1914 .....	16,130 17	
	<hr/>	\$93,996 15

## State:

Maintenance . . . . .	\$40,000 00	\$40,000 00
-----------------------	-------------	-------------

## Instruction:

Current . . . . .	\$86,210 95	
Trust . . . . .	2,166 24	
	<hr/>	\$118,377 19
		<hr/>
		\$252,373 34

## Total expenditures:

United States—1890 .....	\$50,943 43	
United States—1862 .....	2,500 00	
United States—1914 .....	10,045 36	
	<hr/>	\$63,488 79

## State:

Maintenance . . . . .	\$40,000 00	\$40,000 00
-----------------------	-------------	-------------

## Institution:

Current . . . . .	\$83,854 93	
Trust . . . . .	34,493 53	
	<hr/>	\$118,348 46
		<hr/>
		\$221,837 25
		<hr/>
		\$30,536 09

## Balance held as follows:

Morrill fund,—1890 .....	\$24,422 55	
Smith-Lever fund—1914 .....	6,084 81	
Current fund . . . . .	2,356 02	
Trust deficit . . . . .	2,327 29	
	<hr/>	\$30,536 09

I hereby certify that the above is correct and true, and truly represents the details of expenditures for the period and by the institution named.

R. S. BURLINGAME,

*Treasurer.*

This is to certify that we, the undersigned, auditing committee of the Board of Managers of Rhode Island State College, have examined the accounts of R. S. Burlingame, treasurer of the said college, and find the same correct.

THOMAS G. MATHEWSON,  
CHARLES ESTES,

*Auditors.*



## REPORT OF THE BOARD OF VISITORS FOR THE YEAR 1919.

---

*To the Board of Managers of Rhode Island State College;*

GENTLEMEN:—The Board of Visitors commends the promptness with which the college was turned over to the use of the Federal Government, and takes much pride in knowing of the help which this State Institution rendered in the war crisis.

May we here record some of the college affairs, that all other citizens may share in the appreciation of this Rhode Island educational institution.

In April, when the War Department desired that training be afforded enlisted men, commencement was moved ahead and the regular 1918 class, which at that time had been reduced (largely by students entering service) to twenty-five, was graduated. On the 7th of May, with every building on the campus refitted and with new instructors available, training of the two hundred and fifty-two mechanics sent by the War Department was started. After two months, this contingent was replaced by a second unit of two hundred and sixty-three, which remained until late September. On October 1st (slowed up somewhat by the outbreak of influenza), under Federal control, a unit of two hundred and sixty-nine students in the S. A. T. C. started training, continuing same up to December 12.

We appreciate that the required instruction staff was provided and that the necessary machinery and equipment were procured, without sparing of money, to carry out the undertaking with the Government and to make the best of the arrangement.

The courses for young women, discontinued in April, 1918, were resumed on somewhat parallel arrangement to the S. A. T. C. courses on October 1, 1918, and forty-seven young women regularly pursued the work thru to the closing of the year.

The young men and young women who have been able to give so much help to the nation during this period of stress clearly give approval to the teaching made available by our Rhode Island State College.



The indications at Kingston, as well as elsewhere, clearly show prospects of increased attendance at educational institutions, and the Board unanimously recognizes the need of additional facilities for the college. A new building fitted for use by the Department of Agriculture is required; also one suitable for agricultural and extension work, and to include quarters for administration work. Further changes are required in the present Davis Hall, permitting same to be solely available for the women students. With the above additions, space will be provided, as was contemplated in 1917, for the requirements for vocational work. Small additions to two other buildings will provide what is required for the use of Home Economics.

The temporary makeshift arrangement in renting land may well be discontinued, and present seems to be a favorable time to obtain additional near-by land, conveniently situated to cover fundamental requirements and needs for experimental and demonstration work. It may be noted in passing that most of the land held by the college suitable for use by the important Department of Agriculture is actually required by and turned over to use of the Federal Experiment Station, and cannot be made available for the work of the college on problems, the results from which are so directly valuable to our citizens.

It is to be noted that the unusual and rather hard service, incident to the continuous operation of the property under the peculiar conditions existing for some time, shows itself in the need of repairs, perhaps more plainly than any other way now noticeable.

The Board recommends, as absolutely essential, measures to provide compensation for an increased instructional force, and definitely urges prompt starting of the Department of Farm Management and Accounts. This department, as recommended by the Governor, offers the greatest of practical possibilities for help to our citizens in obtaining the largest income incident to our almost only home "raw material."

The Board approved of the extension work covering Agriculture and Home Economics, and in general finds many evidences of real practical benefits arising from this service, conducted by the college and the United States Department of Agriculture.



In view of the call for such help to our citizens and community as can only be given by this Institution, we urge that definite provision be made for the required developments outlined above.

The Board respectfully submits this report.

FRANK L. PIERCE,

*Vice-Chairman,*

D. E. CAMPBELL,

HENRY A. MARTIN,

MRS. DAVID J. WHITE,

CHARLES CARROLL,

LENA FENNER DENNETT,

ELIZA H. L. BARKER,



## REPORT OF THE EXTENSION SERVICE R. I. STATE COLLEGE, 1919.

---

PRESIDENT HOWARD EDWARDS,  
*Rhode Island State College.*

DEAR SIR: There has been no special change in the organization of our Extension work during the past year. We are cooperating as heretofore with the State Relation Service, Department of Agriculture, especially along the lines of County Agent Work, Home Economics and Boys' and Girls' Club work. We are also cooperating with the Bureau of Animal Industry of the United States Department of Agriculture in the employment of a special club worker in Poultry Husbandry, and with the Bureau of Animal Industry and the Rhode Island State Board of Agriculture in the employment of a State Dairyman. Within the State most of our Extension work is conducted through the Farm Bureaus, and both the Farm Bureaus and the College are maintaining cooperative relations with other organizations in the State. This is especially true with regard to the State Board of Agriculture, the State Commissioner of Public Schools and Public School Superintendents throughout the State, the State Corn Growers' Association, Poultry Association, both State and local, Local Dairy Associations, the Grange, Women's Associations, Boards of Trade, Rhode Island League of Improvement Societies, etc. As a result of the war emergency work we have come in close contact with the State Food Administration, especially in connection with our Home Demonstration Work. The Food Administration planned a great deal of work in Home Economics for the purpose of conserving food, and this raised quite a problem with regard to the coordination of the efforts of our Home Demonstrators and the workers connected with the Food Administration.

Through arrangements made by President Edwards with the Food Administrator for Rhode Island, Mr. Coates, and the cordial spirit of cooperation manifested by Mr. Coates and by the Home



Economics workers connected with his office, a very effective plan of cooperation was inaugurated. A written project covering methods of cooperation was prepared in the extension office. This provided for a coordinating committee consisting of the State Director in Home Economics for the Food Administration, the Chairman of the Food Committee of the Council of Defense, the State Leader in Home Economics, the Professor of Home Economics of the State College, and a fifth member agreed upon by these parties. This committee met from time to time, generally once a month, to plan the work of the Food Administration workers and the home demonstrators from the State College, the Farm Bureaus and the Federal Department of Agriculture.

### Changes in Personnel.

Owing to the demands of the war and war work, it has been exceedingly difficult to secure well-trained men and women and hold them for any definite length of time. Appropriations for the work from Congress to the Department of Agriculture have also been delayed, and the amount of money to be appropriated has been under debate, so that it has been more or less difficult to make plans and employ workers with any degree of certainty that the work could be continued even during the period of the war. The following is a list of positions filled or of employees whose employment has begun or ended during the year just past:

Mr. Arthur G. Skinner, County Agent Southern Rhode Island, resigned November 1, 1917, and Frederick G. Comins was appointed to this position and began his labors January 1. Elwin H. Forristall, who took up the work as County Agent in Providence County, December 26, 1917, resigned February 15. No one has been appointed in his place, and the Assistant Agent, Mr. Howard A. Macrae, is now in charge. Mr. Henry R. Strand was appointed Emergency Assistant Agent in Newport County, April 1, and severed his connections with this office on June 30. Mr. Lester D. Groves was appointed Emergency Assistant Agent for Southern Rhode Island Farm Bureaus beginning April 1, and has continued until the present time. Mr. Howard H. Hawes took up a similar position with the Providence County Farm Bureau on April 15, and is still employed. Mr. Patrick F. Reynolds was employed with the



Newport County Farm Bureau from April 22 until August 1, to assist in garden work, and Mr. Geo L. Waugh held a similar position in Southern Rhode Island Farm Bureau from May 1 to May 18, when he was called to the colors. Mr. Sherburne Sweetland assisted in garden work in Providence County from May 15 to June 30. Mr. Lester W. Lloyd, County Agent for Newport County, enlisted in August and was sent to an officers' training school September 1. Mr. Sumner D. Hollis was appointed to take this position on October 10.

In Home Economics, Miss Grace Lillian Rieckel resigned as Urban Home Demonstrator for Providence County on March 2 and became Mrs. Lester W. Lloyd. She was again employed as Assistant Home Demonstrator in the Newport County Farm Bureau from April 22 to September 1. Sarah Hudson LeValley was employed as Home Demonstrator for rural work in Providence County April 15. Miss Esther Wold was employed at the same time as specialist in clothing work, but was unable to take up her work until May 15. Miss Madeline Shaw was employed as Assistant Home Demonstrator beginning July 1. In addition there were seven students and graduates of the State College who were employed for a period of from three to five weeks, ending July 30, to carry on a special campaign for food conservation throughout the State.

In Club Work, Mr. Lorenzo F. Kinney was employed as Assistant State Club Leader beginning July 1, and is still holding this position. In addition to the permanent employees in club work, there have been twenty-eight men and women, mostly teachers and superintendents, who have been employed as local club leaders for periods varying from one to five months.

In the office, Miss Lucy H. Young, filing clerk, resigned August 30, and Miss Hope Essex Swift was appointed to take her place and began work September 23.

### Office Equipment.

Owing to a failure to secure the necessary cooperation from other State organizations, a small fund which had been set aside to meet an offer of cooperation from the United States Department of Agriculture remained available towards the end of the year and was



used in securing some greatly needed equipment. An electrically driven addressing machine, and a cabinet for filing the address plates was secured, also two oak and one steel letter files, a storage cabinet for stationery, a drawer cabinet for filing halftones and cuts used in bulletins, two small show cases for home economics exhibits at fairs, a dictaphone, a new typewriter and a flat-top desk. A few much-needed books were added to the library.

### **Conferences During the Year.**

During the year there have been held regular monthly conferences of extension workers resident at the college, also two general conferences of all extension workers. The monthly conferences have usually been held on the first Monday of the month, and the purpose has been to coordinate work so far as possible, and to develop new plans or call attention to changes in the existing ones. Several other conferences have been held with the County Agents, Home Demonstration Agents and Club workers, at which the State Leaders or committees resident at the college have taken up with these workers, plans for the prosecution and development of their work. Representatives of the Extension office have also held conferences from time to time thruout the year with Farm Bureau Executive Committees and cooperative employees stationed in farm bureau offices.

### **Special Campaigns.**

Early in the spring a representative of the Department of Agriculture came to the state and placed before our extension workers the needs of the Western states for seed corn. A campaign for the collection of seed corn was carried on by the Extension Agronomist and the County agents, and as a result several carloads of seed corn which passed the required germination test of 85 per cent were shipped to the West. The price was \$4.25 per bushel delivered at the cars and netted the farmers who sold the corn very good returns. Some assistance was given to home gardeners in cities and mill villages. Home economics campaigns for increased use of milk, both of whole milk and in the form of cottage cheese, were carried on by the home demonstration agents.



### Publications.

The Extension Bulletin, which has been published for a number of years, has been continued, and two numbers have been published or are in preparation at this time. One, "Thrift in Clothing," by Miss Esther Wold, was printed in time for distribution at the county fairs. The other, entitled "Rural School Lunch," by the Misses LeValley, Hardin, and Hoxsie, is now in the hands of the printer and will be used in connection with the hot school-lunch work where this enterprise is to be taken up. News Letters have been issued from time to time, both from the Extension Service as a whole and from the workers in charge of special lines. These letters are generally sent to newspapers and periodicals, but are also sent to men and women who are closely connected with the work being done. A four-page monthly periodical called the "Extension Review" has been started. The purpose of this publication is to give to the people of the State generally, an outline of the work that is going on in the Extension Service as a whole, also to give certain seasonable information which may be of value to the people of the State. At the instance of the State Leader of County Agents, the Farm Bureaus of the State have joined in publishing a Farm Bureau paper for the State, to be known as the "Rhode Island Farm Bureau News." The three Farm Bureaus share the responsibility for this paper. Most of the space is reserved for Farm Bureau news, and the Farm Bureau workers share equally in providing the reading material. The County Agents also furnish material as they find time for a few pages of general matter. The paper is edited and issued at the State College, and two of the resident staff, R. B. Cooley and George Baldwin, function as Editor and Business Manager respectively. An annual report of the Extension Service is prepared and printed in the report of the Board of Managers of the State College.

### Mailing List of Publications.

Progress has been made in preparing a mailing list of persons in the State who we know are interested in publications on Home Economics and Agriculture. This list now embraces about three thousand names for which we have addressograph plates. It is proposed to classify this by grouping the plates under various



heads, and also by a checking device which will enable us to put a group of addressograph plates through the addressing machine and have the machine automatically pick out plates for printing which have names of persons who are classified as likely to be interested in the publication to be issued.

### **Educational Exhibits.**

Educational exhibits were prepared and were staged in cooperation with the State Council of Defense in a large war work exhibition made by that organization at the three principal fairs of the State, namely: Washington, Providence, and Newport Counties. In addition, parts of this exhibition were displayed at a number of small grange and local fairs. Our workers also assisted at all the fairs in judging and by giving lectures and demonstrations. The main exhibit was at the Washington County Fair at Kingston, and occupied over 2200 square feet in a large tent 200x80 feet. It consisted of exhibits in Agronomy, Livestock Work, Farm Bureau Work by the Southern Rhode Island Farm Bureau, Club Work and five Home Economics Exhibits, emphasizing five different lines of thrift of importance in connection with the prosecution of the war.

The exhibit at the Washington County Fair was divided into two parts, one being sent to North Scituate, where the Providence County Farm Bureau joined in; the other to Newport, where the Newport County Farm Bureau added its exhibit. A heavy rain on Thursday evening of the Washington County Fair week damaged exhibits considerably, and the following week weather conditions were decidedly unfavorable. Frequent heavy rains soaked through the tents, wetting many of the exhibits. At Newport a heavy wind-storm, which completely demolished the tent, accompanied the rain on Wednesday afternoon. Exhibits were salvaged so far as possible and removed to the main exhibition hall, but many of them were damaged beyond rehabilitation. Club work and other exhibits have been held in connection with poultry and other shows during the late fall and early winter months.

The Extension Agronomist, the club workers and home demonstrators took an active part in the Annual Corn Show in December, which was, without doubt, the best exhibition of its kind held in the State.



### Miscellaneous Observations and Recommendations.

In the office work, progress has been made in preparing an outline of the filing system, which was mentioned in my last report. Maps for indicating the work of all the different lines in the Extension Service have been mounted in a wall display fixture, and are ready for the persons in charge of the different lines of work to indicate with glass-headed pins the location of the different activities throughout the State.

An effort has been made, so far as possible, under the emergency conditions which have existed to plan the work so that it may be put on a permanent and definitely organized basis. Special stress has been laid on careful planning of any work to be undertaken and the presentation of plans in the form of written projects.

### Finances.

Regular Funds, College and United States Department of Agriculture:

Federal, Smith Lever funds .....	\$10,552 17
State, Smith Lever funds, contributed by the College.....	582 17
College funds . . . . .	760 96
Federal Funds from the regular appropriation for the Department of griculture available only for salaries.	
County Agent Work .....	3,001 00
Club Work . . . . .	2,400 00

We have continued cooperative relations with the Bureau of Animal Industry, Department of Agriculture, thru which they contribute \$1500 to pay the salary of the State Specialist in Poultry work and \$1000 towards the salary of the State Dairy Specialist. The State Board of Agriculture and the State College contribute \$500 each for the remainder of the salary of the Dairy Specialist, and not to exceed \$250 each towards traveling expenses. A co-operative relationship with regard to a State specialist in sheep husbandry was entered into with the Massachusetts Agricultural College and the Department of Agriculture, but this arrangement was found unsatisfactory and was discontinued July 1.

### Emergency Funds, U. S. Department of Agriculture.

The Department of Agriculture again last spring asked of Congress appropriations of emergency funds to be used in cooperation



with the different States in the continuance of County Agent and Home Economics Work and Club Work, but this bill did not go through until December. Meanwhile funds to be used by the Federal Department in continuing the work as begun last year were provided by monthly resolutions. On this basis we were allotted the same amount of money as last year. The money was divided as follows:

County Agent Work .....	\$4,000 00
Home Economics Work .....	10,200 00
Club Work . . . . .	3,000 00

As in past years it has been the policy of the Department to have these funds used primarily for salaries. Whenever it is possible for local associations to pay traveling expenses, this rule is adhered to, but on account of the small amount of State funds available, the Department has, in most cases, paid a good share or all of the traveling expenses of emergency workers as well as their salaries.

### Acknowledgments.

The Director of the Extension Service acknowledges with pleasure the hearty cooperation in the work by his associates and the general spirit of team work which has been displayed by the individual extension workers. Grateful acknowledgment is also extended to President Edwards of the College, and other College authorities for the encouragement of the work which they have given, to college professors and instructors for assistance rendered in extension work, and to the officials of the States Relations Service, United States Department of Agriculture, for the spirit of helpfulness which they have always manifested, and the practical assistance which they have given on a large number of occasions.

### Plans for the Future.

The past two years, since the declaration of war against Germany, have been years of strenuous effort to organize the extension work so that it might contribute as far as possible towards a successful termination of the war. In Rhode Island this effort has, of course, been directed largely towards making the State more nearly self-supporting, in order that its inhabitants might draw less on the surplus food supplies of other States. It is essential also, as a



general proposition for times of peace, that self-sustenance for the State, especially in connection with perishable food products, should be maintained and the Extension Department should bend every effort towards achieving this purpose. It has been fortunate for the extension work that emergency funds from the Federal Department of Agriculture have been available. We feel that good use has been made of these funds, and hope that a sufficient amount of money may be secured for the future, either through State or Federal appropriations, so that the framework of our extension work which has been built up during the past two years may be maintained.

We have at present the following plans under way: First, the completion of the organization of the office so that the work may be carried on more readily and more systematically. To this end we are preparing what may be termed a manual of office work wherein a fairly definite outline will be given of all office work. This will be used as a guide to office workers and particularly to acquaint new workers with their duties when changes have to be made. A more vigorous effort will be made this year to plan all our extension work carefully and to put the main projects in written form for future guidance. In order to obtain efficiency we must get away from or reorganize as far as possible a good deal of the miscellaneous work which comes in and which, although useful itself, will not be effective in securing definite, tangible and lasting results.

Another problem which we have before us is to develop more effective methods in extension teaching. One of the first requirements in this direction will be a more definite organization of such teaching so as to arouse the interest and meet the needs of people who regard themselves as beyond school age and have gotten out of the habit of doing systematic studying. Another purpose which we must keep in mind in this connection is the acquisition or preparation of teaching accessories, such as charts, maps, photographs, lantern slides, moving pictures, models, exhibits, and other illustrative materials. In order to maintain an adequate agency to carry on extension teaching in Rhode Island, experience of the past four years seems to indicate that the following plan represents the framework of what should be an effective plan of organization.



To begin with, the work should be divided into three main groups: County Agent Work dealing with adult men, Home Economics Work with adult women, and Club Work, through which elementary Agriculture and Home Economics can be imparted to children in the homes. In the County Agent Work, we should have one agent in each of three or four districts with a State Leader or the Director in charge. In Home Economics, we should have a Home Demonstrator in each district, with a State Leader to supervise the work. A similar organization also seems to give the best results for Club Work throughout the country.

To reinforce these workers and give assistance throughout the State wherever it may be needed, we should have four or five men and women, who can specialize in certain definite subjects. Our experience seems to indicate that we have the greatest need for specialists along the following lines: Agronomy, Farm Management, Animal Husbandry and Horticulture, with especial attention to Market Gardening. A Clothing Specialist will be very helpful and almost necessary in connection with our Home Demonstration work.

Our Extension Work can accomplish very little in reaching the large number of people who ought to be reached by our workers unless we can get the cooperation of local people. This cooperation must be, at least for the present, voluntary and unpaid, and consequently must be secured from public-spirited individuals who are interested in the problems of Agriculture and Home Economics and who are willing to give of their time in interesting and helping others. To this end all extension workers must give a great deal of attention to local organizations; in fact, with the relatively small number of regular employees which we have, and the large number of people who should be reached, local organization and instruction of volunteer assistants must take up a very large part of the time of every field extension worker.

### **Work with Projects.**

Project 1. *Administration.* The work under this project has been considered to a great extent in the introductory report. In a general way, the plans have not varied a great deal from what they were last year. Efforts towards a more definite organization



of the different lines and towards securing a more systematic reporting of the work have been continued. In this connection, display maps have been secured and are now ready for use. Drafts for small town maps to be used in connection with reports are in the process of completion. It is proposed to have line-cuts made of these and to print a sufficient number of each map so that every worker may at all times have copies of a good map of the district in which he is working, on which to report the development or completion of his plans.

The card index of farmers has been very largely extended during the year, and we probably now have a fairly complete list of all the farmers of Rhode Island. This index is arranged by towns and will form the nucleus for a more complete and thorough-going record of farms and farm work of the State.

As already noted, the filing system of the office is undergoing a revision, and we trust that during the coming year this revision will be completed. During the past year there has been so much work in preparing the mailing list and in doing miscellaneous office work that the filing clerk has not had much time to give to her regular work.

The work arising from the use of Federal Emergency funds has necessitated considerable recording for which special blanks have been made in order to save time in making entries.

Project II. *County Agent Work*, The principal difficulty during the past year as in previous years has been the frequent changes in the personnel of the County Agents. Considerable progress, however, has been made in the development of the work, and we hope that with fewer changes in County Agent positions we may in the near future place this work on an entirely satisfactory basis.

In Southern Rhode Island Farm Bureau district, County Agent Comins has continued emphasizing the development of the dairy industry by stimulating the use of a larger proportion of home-grown dairy feeds, more effective feeding by the use of balanced rations, the improvement of dairy herds by eliminating the "boarder cow," and the introduction of registered or high-grade dairy stock. Forty-eight registered cows and eight registered bulls have been



purchased during the year by farmers in the district. Mr. Comins has also given considerable time to organization work, and five communities have been organized with good working committees.

In Providence County, Assistant Agent Macrae has emphasized primarily the business side of farming and, especially, cooperative purchasing and marketing; farm loan work in connection with the Federal Farm Loan Bank of Springfield, Massachusetts; the liming of soils; growing of clover, alfalfa and soy beans; orchard and potato spraying; introduction of pure-bred or high-grade stock has also received attention. Assistance has been given to the dairy-men in securing a bonding law which will prevent milk dealers from contracting for milk for which they cannot or do not intend to pay.

County Agent Lloyd, Newport County, secured excellent results during the time that he was employed. Assistance was given to the Aquidneck Dairymen's Association in planning their milk distributing plant. The use of improved seed corn; supplementing stable manure with phosphoric acid; growing clover, alfalfa and soy beans; the introduction of registered live stock and the organization of boys' pig clubs received attention. Mr. Hollis, who succeeded Mr. Lloyd, has taken up the work in an able way where his predecessor left off, and is developing the work along the same lines.

There have been several instances of excellent County Agent work in Rhode Island, but the development of an efficient cooperative milk distributing plant in Newport is probably the most prominent. This cooperative enterprise is the direct outgrowth of the Aquidneck Dairymen's Association organized from the Extension office in 1915, primarily for the purpose of conducting cow testing. This feature of the work was dropped after about a year, but the association hung together and functioned as a cooperative buying association until 1917, when the diphtheria epidemic broke out in Newport and raised the question of a better milk supply. The association had shown excellent signs of cooperative enterprise, and through a generous offer of financial assistance from a Newport County resident, and with the vigorous aid of the County Agent and specialists from this office and the United States Department of Agriculture, an up-to-date milk distributing plant was started. The milk is now handled so as to be cleaner and more uniform in



quality, and pasteurized so as to reduce to the minimum danger from transmission of disease. In December milk was retailed to the consumer at 15c. a quart, or about two cents less than the prevailing price in neighboring cities. The producers were paid  $9\frac{1}{2}$ c., which was somewhat more than the prevailing price received by New England farmers, and 11-10 cents more than New York farmers were receiving at the time.

The plant distributes from 7,000 to 11,000 quarts of whole milk daily. Assuming an average of 8,000 quarts daily, the yearly gain to consumers in Newport over those in other cities is, at 2c. per quart, \$58,400. The producers were receiving a better price, but leaving this out and considering only the gain from labor saved in more economic collection and distribution, we find that the plan saved each farmer, on the basis of \$5.00 per day for man and team, approximately \$260 a year. As there were about forty farmers delivering milk before the establishment of the plant, this represents a total saving of \$10,400 per year. In recent months also the plant, in addition to paying all expenses and interest on capital stock, has had a net profit of as high as \$4,500 per month, part of which will be used for repairs and improvements and part set aside as a sinking fund.

### Extending the Agents' Work in the Counties.

	1918.	Total
Different farmers visited on their farms.....		427
Total number of farm visits made.....		705
Calls on agents at offices .....		2,916
Meetings held under auspices of organizations or agents.....		115
Total of all meetings in which the agents took part.....		214
Total attendance of such meetings.....		7,931
Membership in Farm Bureaus, Dec. 1, 1918.....		268
Associations organized for adults (1918).....		1
Membership of adults' associations .....		108
Boys' and Girls' Clubs organized in 1918.....		1
Total membership in such clubs.....		30
Agricultural articles written by agents and published in local papers..		107
Agricultural articles written by agents for Farm Bureau News.....		9
Letters mailed . . . . .		2,141
Circulation of circulars and circular letters.....		10,355
Local Extension Schools and Institutes at which agents assisted.....		2



Days devoted to above schools.....	4
Total enrollment of these Extension Schools.....	210
Agricultural observation parties conducted .....	8
Number of persons in such parties.....	115
Meetings or demonstrations held with specialists.....	6
Days in office .....	402
Days' leave . . . . .	25

Project III. *Home Economics Work.* The Home Economics work of the Extension Service under Miss Meloche has contributed very effectively to the efforts for the conservation of food as required by the Federal Food Administration. The work has been carefully organized along the lines laid down by the project agreement between the Department of Agriculture and the College. Brief monthly meetings to assist workers have been held, also a few conferences of longer duration, at which plans for campaigns have been carefully worked out. As already noted, the State Leader has been a member of the State Coordinating Committee in Home Economics, through which the duplication of work by the Food Administration and the Extension Service has been prevented.

In the early spring there was held at the College a four-day "Home Economics Week" at which fifty were present. Stormy weather prevented a larger attendance, but it was impossible to give to a number of people instruction and inspiration which would enable them to do better work in their homes and also as local leaders in home economics.

The women of the State were asked to save meat, sugar, wheat, and fats, and the home demonstration agents in cooperation with the Food Administration endeavored to give the women the necessary information to carry out this work effectively. Demonstrations in wheat substitutes, saving of fats and meats, sugarless desserts, use of corn products, value of milk and milk products in the diet and other lines were given.

A surplus of potatoes was found early in the summer, and the home economics agents gave demonstrations all over the State to increase the use of potatoes. As a result, it is estimated that sales in Rhode Island were increased 50 per cent during the month in which the demonstrations were held. Ninety-six demonstrations



in the use of milk in the diet were given in different parts of the State. Canning as a food-saving method is of great importance, and in order to extend the work in this line as far as possible, the home demonstrators trained eighty-five volunteer demonstrators who helped to extend the work out over the State. One-fourth of the women who attended canning demonstrations sent in reports showing that they had canned 88,927 quarts of fruit and vegetables and put up 32,340 jars of preserves. At lowest wholesale prices based on valuation at canning centers in Connecticut and Rhode Island, these canned goods were worth \$23,9467.80. According to retail prices secured from stores in Rhode Island and used as a basis for club work estimates, these goods were worth \$54,165.50. The construction and use of fireless cookers, and the use of better cooking methods and utensils was made the subject of demonstrations intended to save fuel.

Clothing conservation was found to be almost as necessary as food conservation, and "Made-overs from Left-overs" was made the slogan. It is estimated that over \$2000 worth of garments were made in classes of women organized to receive instruction. Besides this, there was undoubtedly a much larger amount saved by the women, who afterward applied the lessons learned to clothing work in their homes. A bulletin on "Thrift in Clothing" was prepared and distributed at fairs, to women in classes, and to all who inquired for information on this subject.

During the year, nineteen different mothers' clubs were reached; twenty-one demonstrations on food and fourteen demonstrations in clothing work were given at these clubs. Four Federal clubs had the food series and one Federated club received the clothing series. Of the thirty-nine granges in the State, twenty-nine were reached by lectures or demonstrations, eleven of them had series of food demonstrations. Nineteen series of food demonstrations were given in cooperation with the local leaders of the State Council of Defense; 1717 home visits were made; 13,000 Food Administration leaflets and 40,000 bulletins, circulars and recipe sheets and other literature were distributed. It is estimated that approximately 25,000 people were reached, and demonstrations have been held in practically every community in the State; twenty-three calls for series demonstrations have been refused for lack of time.



Project IV. *Club Work.* Additional funds secured from emergency appropriations by the Department of Agriculture enabled Mr. Thomas, State Leader, to develop the club work very effectively during the past year. Especial effort has been made to secure definite results by follow-up work and through systematic campaigns to have boys and girls complete the projects which were undertaken by them at the beginning of the season. The result of this work is enumerated as follows:

Boys and girls have been interested in twelve projects during the year, as follows: Gardening, Canning, Poultry, Corn, Pig, Potato, Baking, Cooking, Sewing, Handicraft, Rabbit, Pigeon. A few boys have been interested in Sheep, Goats, Bees, Guinea Pigs and Ducks.

As in former years, the most popular clubs have been the Gardening, Canning and Poultry. This may be explained by the fact that these club projects have been given the greatest amount of time and attention.

In the Gardening project, there were 5741 members enrolled. Of these, 4856 reported crops produced to the value of \$97,665.00.

In the Canning project, there were 3888 members enrolled. Of these, 3065 members reported products conserved to the value of \$36,280.00. Over 72,890 quarts of products were conserved by these members reporting.

In the Poultry project, there were 1029 members enrolled. Of these, 590 reported having produced poultry products to the value of \$41,075.00; 7194 chicks were hatched; 6030 laying hens were managed, and 21,675 dozen eggs produced.

There seems to be a growing interest in live stock projects. One hundred and sixty-six members reported on pigs, 91 on rabbits, 55 on pigeons, and a few on sheep, goats, Guinea pigs and ducks.

A large number of girls are taking an interest in the Baking and Cooking Club work, and in helping prepare meals at home with the assistance of their mothers.

In the Sewing Clubs, 362 girls reported products valued at \$2425.00.

Much of the sewing work this year has been for the children of France and Belgium and for the Red Cross.



### Club Members Interested in Other Projects.

The 9,642 Club Members reporting showed that many of them were actively interested in one or more projects other than the one on which they had reported.

### Activities of Club Leaders.

During the year, Club Leaders have conducted the following activities:

#### DEMONSTRATIONS.

Canning, baking, sewing, garden, poultry.....	534	Attendance	9,133
Field meetings . . . . .	388	"	6,100
Club festivals . . . . .	2	"	60
Leaders' training conferences . . . . .	13	"	86
Club exhibits held . . . . .	46	"	7,000
Club plats visited . . . . .	1,405	"	5,063
Number club meetings . . . . .	1,126	"	24,562
Number other meetings, lectures, conferences, etc.	931	"	12,839
Number meetings of all kinds.....	4,435		
Total Attendance			64,843

Number paid leaders, permanent, 4. Two to five months, 27.

Total months time worked during calendar year by all leaders, 109½ months.

In addition to the food production and conservation already noted, club workers have contributed service to the Red Cross, have purchased Thrift Stamps and Liberty Bonds and have assisted in collecting stone fruit seeds and nut shells for gas mask factories, all of which has been of assistance in the prosecution of the war.

Project V. *Agronomy*. This project has been carried out so far as possible by Mr. Baldwin in connection with his work as Assistant County Agent at large for the State.

The following demonstrations have been conducted in cooperation with Farm Bureaus: 9 alfalfa, 6 soy bean, 3 silage corn, 2 in liming for turnips and mangels, 5 on manure plus acid phosphate, and 8 on rape. During the year 318 samples of soil have been tested and recommendations about use of lime given. Seed corn collection for the Western States and farm accounts received considerable attention. Assistance was given in carrying on the State Corn Show and in the garden campaign conducted



last spring, also in preparing and staging exhibits at the fairs. Thirty-one trips to advise with regard to agronomy problems were made during the year.

In carrying out the extension work in agronomy during 1918, four ideas were developed, which seemed to be of prime importance:

1. To maintain fertility and to improve worn-out soils by growing leguminous green manuring crops.

2. To increase the farm profits by producing more of the small grains and more legumes or protein crops, the crops so grown to be fed on the farm.

3. To improve the quality and to decrease the cost of dairy rations by producing home-grown roughages and home-grown concentrates.

4. To demonstrate the value of the proper handling of manure, and to show that it is good practice to supplement manure with acid phosphate.

Project VI. *Poultry Husbandry*. This project was dropped as a definite line of work for adults in the extension service when Mr. Lambert took up his duties as Extension Club Leader in Poultry Husbandry. There has, however, been quite a good deal of adult work coming in which Mr. Lambert has endeavored to take care of so far as possible. In many cases he has found that visits to poultry club members brought him in contact with the fathers and mothers of the boys and girls and almost invariably it was possible for him to give them also suggestions which were of value to them. Such correspondence as has come to the office has been handled very largely by Mr. Lambert.

Project VII. *Dairy Extension Work*. This has been carried on very much the same as last year, Mr. Cooley being employed as State Dairy Specialist by the Bureau of Animal Industry, Department of Agriculture, the State Board of Agriculture and the State College Extension Service. In this project, continued emphasis has been placed on the production of more protein roughage for live stock on Rhode Island farms. Especial emphasis has been given to encourage the use of clover, alfalfa and soy beans. The construction of silos and use of silage has also been stimulated. Attention has been given to the planning of



rations for dairy stock, weighing of feeds in order to determine the optimum quantities to be fed to different cows and to the weighing of milk to determine what cows produce sufficient milk to pay their board and yield an income to the owner. Some attention has also been given to the improvement of barns and to better housing of dairy herds. Perhaps the greatest results from work of this kind have come from the introduction, very largely in cooperation with County Agents, of quite a number of registered or high-grade bulls and cows in the State. Assistance has been given at the various fairs in preparing and staking exhibits, and in live-stock judging. Boys' live-stock judging contests have also been conducted. In response to requests for advice coming through the County Agent from the Aquidneck Dairymen's Association, assistance was given to this organization in promoting and planning a cooperative milk distributing plant in the city of Newport. The State dairymen cooperated with the home demonstration workers in connection with the campaigns for increased use of milk and milk products.

Project VIII. *Sheep Extension Work* was continued by Mr. Haslett up to July 1 and resulted in the introduction of a considerable number of sheep in this State. Demonstrations in shearing and dipping of sheep were given, and considerable advice was handed out in relation to the care and feeding of sheep. As already noted, it proved unsatisfactory to divide the specialist's time between two States, so the Massachusetts Agricultural College took over Mr. Haslett for full time, beginning July 1, 1918.

Project IX. *Entomological Extension Work*. An offer of assistance in Economic Entomology came to us from the United States Department of Agriculture in the late spring, and after due consideration it was accepted and, by a cooperative arrangement, turned over to the State Board of Agriculture for further development. After several conferences a definite plan was worked out, and Mr. F. J. Rimoldi was sent to Rhode Island by the Bureau of Entomology of the Department of Agriculture, and took up definite work in connection with the Entomological Department of the State Board of Agriculture. As Mr. Rimoldi wished to be in close touch with an insect collection and with the general Entomological Department of the Institution, he received the con-



sent of Secretary Dunn of the State Board of Agriculture to transfer his headquarters to Kingston and was given a desk in Professor Barlow's office. His connection with the work in Rhode Island was terminated by the Bureau of Entomology the first of December.

Respectfully submitted,

A. E. STENE,  
*Director.*



# THIRTY-FIRST ANNUAL REPORT

of the

Director of the Agricultural Experiment Station of the Rhode  
Island State College.

---

DR. HOWARD EDWARDS, *President*.

DEAR SIR: I submit hereby, in non-technical form, references to such experimental results obtained during 1918 as will indicate the nature of most of the more important lines of work.

In such a report of progress it should be understood clearly that present ideas regarding the results are liable to modification in the future as the experiments are continued. Nevertheless, it seems desirable to transmit annually the impressions which are derived, even if some of the readers do attach too much importance to certain indications.

*Publications.* Those which have been issued since the last annual report are as follows:

Miscellaneous experiments with corn. Bul. 173, April, 1918, 27 pp.

The colon-typhoid intermediates as causative agents of disease in birds:

I. The paratyphoid bacteria. Bul. 174, May, 1918, 216 pp.

The influence of crop plants on those which follow: I. Bul. 175, June, 1918, 29 pp.

Thirtieth annual report of the station. *In* Bul. of Rhode Island State College, XIII, 4 (35-42).

Analyses of feeding stuffs. Inspection Bul., May, 1918, 12 pp.

Analyses of commercial fertilizers. Inspection Bul., October, 1918, 14 pp.

\*Contribution No. 249.

Studies on fowl cholera: V. Toxin production of *Bacillus avisepticus*. *In* Jour. Bact., May, 1918, III, 3 (277-291).

Aluminum as a factor influencing the effect of acid soils on different crops. *In* Jour. Amer. Soc. Agron., X, 1, January, 1918 (45-47).

The presence of aluminum as a reason for the difference in the effect of so-called acid soil on barley and rye. *In* Soil Science, VI, 4, October, 1918 (259-281).



*Weather.* Detailed records may be found with the New England Climatological Data of the United States Weather Bureau. The mean temperature in April was the highest for the month since 1910, in May the highest within 29 years' records, in August the highest since 1906, and in October and November the highest since 1913. The last killing frost in the spring was on April 20 and the first in autumn not until November 3. April was the wettest month in the year, the precipitation being 5.60 inches; and October the driest, 1.42 inches. July and August were below the normal in precipitation, and above the normal in temperature. Between June 23 and July 29 only 1.10 inches of rain fell, and there was no rain between August 15 and 28. Nevertheless, no positive benefit was derived from overhead irrigation.

*Organic Matter for the Soil.* The four legumes which had been sown separately in sweet corn the preceding year received winter injury in the following increasing order: alfalfa, mammoth clover, winter vetch, and sweet clover, the latter having been heaved badly. The yields of early garden peas grown upon the plats devoted to winter legumes were quite uniform.

Where corn is grown continually and about half a stand of winter rye, 10 to 12 inches high, was plowed in, 56 bushels\* of corn were produced. This was also the yield where legumes have always been used instead of rye as a cover crop, but where less nitrogen is applied. Without the rye cover crop, but otherwise treated the same, 50 bushels of corn were produced.

On land which had received all except nitrogenous fertilizers for over twenty years, a sod in which considerable clover had persisted was plowed in for corn, and 78 bushels were produced. Only two bushels more were produced on an adjoining plat which was similar except that it had always received nitrogen (60 pounds in 1918) and had no clover remaining in the sod.

In conjunction with fertilizer chemicals, muck composted with slaked lime is being compared with 16 tons of stable manure furnishing the same amount of organic matter. About equal yields of early cabbages and of late beets resulted; but the manure was

---

\*Unless otherwise stated, manurial applications and crop yields are on an acre basis.



superior in case of lettuce, tomatoes, celery and fall spinach. There are indications, however, that the acidity of the muck has not yet been entirely counteracted by lime. Where green manures were plowed under, and fertilizer chemicals used in preparation for celery, the yield of celery was not so large as where stable manure was used; but the early cabbages in the following spring have yielded as well during the last three years where green manures as where stable manure had been used. Fertilizer chemicals were added in each case. As high as 468 barrels (90 lbs. each) of the Charleston Wakefield cabbages were produced in 1918. Early tomatoes have yielded much better on the stable manure than on the rather poor winter cover crops which have been plowed in thus far in the experiment.

In the greenhouse, no combination of muck, lime and fertilizer chemicals was found, in the first attempt, to equal stable manure for growing lettuce; although sand, muck and fertilizer chemicals again proved equal to composted manure and soil for carnations.

A plat which receives at the rate of ten cords of manure each year produced only a little more sweet corn in 1918 than an adjoining plat which receives only fertilizer chemicals; the latter supplying, in 1918, 75 pounds of nitrogen, 150 pounds of phosphoric oxid and 50 pounds of potassium oxid per acre.

Apparently there has been only a very small average advantage in the past from plowing sod under in the fall instead of in the spring in preparation for potatoes, and in 1918 there was no advantage.

*Efficiency of Fertilizers and Other Manures.* Experiments in pots were continued to determine the relative availability of nitrogen in different sources and in the insoluble part of different brands of commercial fertilizers. The farmer should not be satisfied to purchase fertilizers in which the guaranty of nitrogen is maintained by any considerable amount of inferior nitrogenous material.

In the autumn of 1917, four-year applications of raw rock phosphate or floats were plowed in with a good second growth of clover for comparison in 1918 with a one-year application (50 pounds of phosphoric oxid) of acid phosphate, and other sources of phosphorus. In 1918 there was an opportunity to compare the



effect of one part of phosphorus in acid phosphate with four and with nine parts in floats. The needs of rape were small and were therefore about fully supplied in each case. The yield of table beets, with acid phosphate, was between those from the two different amounts of floats. For tomatoes one part of phosphorus in acid phosphate was more efficient than even nine parts in floats. Also in 1914 and 1915 for beets and tomatoes, one part of phosphorus in acid phosphate was superior to two and a quarter parts in floats.

About 3.5 tons of hay were produced, whether fertilizer chemicals, or about four cords of cow manure with straw bedding, or an equivalent amount of cow manure with planer-shavings bedding, is used annually; nor did supplementing the latter with potassium or with phosphorus increase the yield of hay. The ruta bagas which followed the hay, however, without a fresh application of cow manure, grew satisfactorily only on those plats where acid phosphate is used on each crop, to supplement the manure added in the spring. On the shavings-manure plats only about 6.5 tons of turnips were produced on only the manure residue from the spring applications, while about 9.5 and 13.5 tons were produced where 30 and 60 pounds, respectively, of phosphoric oxid is added in acid phosphate for each crop. Again, the dependence of turnips on readily available phosphorus was emphasized. It is good judgment always to give plenty of phosphorus to turnips.

Hay which yielded only 2280 pounds, because potassium had been withheld for many years, was increased to 3660 pounds by the application of about 200 pounds of either common salt or soda ash. In a mixed herbage, the clover was markedly reduced by the continued omission of potassium from the top-dressing; clover seems to be more sensitive than many crops to a lack of potassium.

On alfalfa, the "American Rock Potash" was again fully equal to sulfate of potash when supplying the same amount of soluble potassium; and yearly applications of as much as 2600 pounds of the former have never appeared deleterious on the light soil where it was used.

The results of the last year of the preliminary round of certain three-year market-garden rotations were obtained in 1918, so that three years' results with each crop for the different applications are



now available. In case of each crop, the average yields with 32 tons of only horse manure with straw bedding have been less than with half the amount of manure when supplemented with some combination of fertilizer chemicals. The standard application of the latter for the spring crops of 1918 was equivalent to about 1500 pounds of a 4-10-2 fertilizer. However, cabbages and tomatoes responded, in 1918, to an extra amount of nitrate of soda, the potassium apparently being sufficient. For the second crops, beets, spinach and celery, the standard application, added only where 16 tons of manure were applied in the spring, was equivalent to about half a ton of 3.8-7.5-5 fertilizer. This was supplemented advantageously not only by nitrate of soda, but by still more potassium, indicating that the potassium which had become available since the preceding season, as well as from the spring application of manure, was largely removed by the first crops. Although early cabbages have been grown satisfactorily without stable manure, an attempt to use green manures in place of stable manure has not yet been fully successful with early tomatoes and late celery. The scarcity of stable manure warrants continued activity in this direction.

For carnations, the addition of nitrogen to manure and soil compost has proved of doubtful value; potassium has been neutral in its effect, but there have been indications that phosphorus was somewhat beneficial.

*Specific Plant Differences and Needs.* Eureka and Early Mastodon silage corn, which are of nearly the same type, yielded the most, about 27 tons, followed by Northern White dent, 20.7 tons; Beardsley's Leamin, 18.9 tons; Webber's dent, 17.8 tons; and Century dent, 14.5 tons. Some of the smaller yielding varieties are considered the most desirable because of greater ear development.

The comparative yields per acre, in 30-pound bushels, of different varieties of early peas were as follows: Thomas Laxton, 268; Nott's Excelsior, 210; Gradus, 172; Gregory's Surprise, 164; and Early Morn, 152. A "shelling contest" indicated the range which may occur in given measures of different varieties, namely:

2 Bu. Nott's Excelsior weighed 64 lbs., 41 of pods and 23 of peas.

2 Bu. Thomas Laxton weighed 54 lbs., 38 of pods and 16 of peas.



The Thomas Laxton and Gradus varieties gave the largest number of bushels prior to the fourth of July, whereas even the first picking of Early Morn was not ready until the tenth of July. The grower of the seed thinks that some other than the Early Morn variety must have been sent by mistake.

The unusual interest in home-grown foods led to variety tests of beans, planted May 24 and left to mature. White Kidney and Medium White produced 15 bushels; Low's Champion and Red Kidney, 13; Burpee's Stringless, 12; and Hodson's Wax, 11. White Kidney beans, planted June 14 under more favorable conditions, produced 26 bushels, and Yellow Eyes, 20.

Six varieties of yellow-colored soy beans were compared to determine their merits primarily for silage purposes; but, nevertheless, it was desired that they be sufficiently early to reproduce themselves. On September 28, when a portion of each variety was cut for the silo, the Hollybrook and Haberlandt varieties were the least mature, although they produced viable seed even in the short season of 1917, and the Hollybrook produced the largest yield of any, 11.8 tons. The least productive for silage purposes, but earliest to mature and the best bean yielders (21 bushels) were the Amherst and Elton varieties. Other varieties intermediate in maturity were the Swan and Austin.

Preliminary tests of many other soy bean varieties were made, partly to find some which would twine around field corn. Wilson Five, a black bean, had fine and twining vines, but they inclined to form a tangle between the rows quite as much as to climb the corn. It seems probable that the New Era cowpea may be useful in this connection. Such legume crops should constitute from a fourth to a fifth part of silage in order to reduce the purchase of protein concentrates.

The best-yielding variety of potatoes was the Norcross, 386 bushels; the Green Mountain variety itself and other members of the group, Gold Coin, Mill's Pride and Pride of Vermont, were likewise heavy yielders, as was also the American Giant. Rural New-Yorker and other members of that group, such as Carman No. 3, Sir Walter Raleigh, World's Wonder, Dibble's Russet and Kasoag Russet, yielded less than 265 bushels.



In 1918, 70 to 80 bushels of hard corn were produced on sod land with fertilizer chemicals alone, regardless of whether 60 or 80 pounds of nitrogen, 50 or 100 pounds of phosphoric oxid, and 60 or 120 pounds of potassium oxid were used. It made no difference in yield whether the fertilizer was applied broadcast or in the hills.

The regular rotation formula for spring top-dressing of winter rye, namely, 125 pounds of nitrate of soda, 300 pounds of acid phosphate and 100 pounds of a high-grade potash salt, caused a yield of 29 bushels of rye and 1.6 tons of straw. Where this was compared with a third less of the fertilizer, there was a consequent reduction in yield to 18 bushels of rye and 1.2 tons of straw.

The relative ability of different kinds of plants to satisfy their requirements for phosphorus has been shown plainly by growing a number of different crops under the same conditions. Carrots secured their entire needs under conditions where turnips were practically unable to grow without phosphatic application; millet and tomatoes ranked next to carrots; and beets and rape next to turnips.

An accurate determination was made of the nutrient requirements of barley, wheat and oats at different stages of their growth to maturity in solution. Until such information is obtained, mistakes are liable to be made in attributing retarded growth to deficiencies of plant food, because of a lack of knowledge of the necessary requirements.

*Effect of Crops on Each Other.* With liberal amounts of fertilizer, the marked effect of crops which had preceded them on onions was shown by the fact that only 92 bushels of onions were produced after beets; 288, after beans; 319, after onions; and 400, after endive, where the soil was quite acid; whereas, when considerable lime had been added, the variation was only from 485 to 590 bushels. The kind of lime, whether high in magnesium or in calcium, or in carbonate or hydrate form, made no practical difference, when applied in a fine condition and in quantities sufficient to neutralize an equal amount of acid.

In order that the cumulative effect of alfalfa, barley, beets and carrots might be served on another crop, barley, which is also rather sensitive to conditions accompanying acid soils, was planted



uniformly where each of these crops had been planted singly in the five preceding years. Fertilizer chemicals were applied in generous amounts each year; nevertheless, on the unlimed plats, even though beets could not make a satisfactory growth, they and the carrots were followed generally by the poorest growth of barley. The best barley on the unlimed plats was where barley itself had been the preceding crop. On the limed plats, however, the growth of barley was even greater following beets than it was following barley.

In Bulletin 175 other observations of a similar kind are discussed, and there is reserved for a subsequent Bulletin on the same general subject much material obtained in pot experiments. The data in these bulletins form the basis for the following few general statements appropriate to this report. It seems probable that crops, like beets, which remove from the small amount of active soil constituents a considerable excess of basic over acidic ingredients, may, because of that fact, affect injuriously especially crops which are sensitive to acid soil conditions. When an abundance of basic material is present, this effect seems largely to disappear. Certain publications of the year have also shown that in acid granitic soils, aluminum, apart from the acidity arising from its salts, is the soil constituent which, with certain plants at least, is responsible for the difference in the effect of so-called acid soils on some crops when compared with others. Both basic material and acid phosphate render the aluminum less active and deleterious, but it cannot be stated now to what extent these observations may explain the very potent influence which crops have, under many circumstances, on those which follow.

*Inheritance Studies with Poultry and Rabbits.* The inheritable character to lay large eggs is not joined with high annual production; but a high percentage increase in egg-weight, usually during April and September, does appear to be associated with high annual production in numbers, at least for the first year.\*

The first reciprocal crosses between heavy-weight (Cornish)

---

\*A brief paper on this subject has been submitted to the Journal of the Assoc. of Instructors and Investigators in Poultry Husbandry; and one to The American Naturalist.



stock and light-weight (Hamburg) stock were made in 1918, but the results have not been submitted to analysis.

By working with English piebald rabbits, it has been shown that there exists a tendency for the dark area to increase and then to remain permanent when male rabbits with a larger proportion of dark areas are used as sires. To this extent, then, selection appears to be effective and to have much of the importance which was formerly ascribed to it.

*Diseases of Poultry.* During the past year the study of the so-called paratyphoid bacteria as causative agents of diseases in birds was brought to completion. The results were published in Bulletin 174. The study is being continued with reference to the paracolon bacteria.

Respectfully submitted,  
BURT L. HARTWELL,  
*Director.*

Kingston, R. I.



## APPENDIX A.

### Summaries Dealing with Certain Phases of Receipts and Expenditures for the Year Ending June 30, 1918.

#### SUMMARY FOR YEAR.

Balance on hand July 1, 1917.....	\$21,311 80
Total income during year .....	203,095 51
Total . . . . .	\$224,407 31
Total expenditures during year .....	221,114 05
Balance on hand July 1, 1918.....	\$3,293 26.

#### INCOME.

##### Income from students:

Tuition fees . . . . .	\$1,272 50
Matriculation and incidental fees .....	2,298 20
Chemicals and laboratory supplies .....	1,251 43
Dormitory fees . . . . .	5,251 57
Dining hall . . . . .	24,719 15
Store sales . . . . .	4,338 16
	<hr/> \$39,131 01

##### Income from State and Nation:

State—Maintenance appropriation .....	\$40,000 00
Federal—Morrill Act of 1890 and Nelson Act of 1907 . . . . .	50,000 00
Morrill Act of 1862 .....	2,500 00
Hatch Act of 1887—Experiment Station.....	15,000 00
Adams Act of 1906—Experiment Station.....	15,000 00
Smith-Lever Act of 1914—Extension Service.....	10,582 17
	<hr/> \$133,082 17



## Income from other sources:

Sales and service of departments, including receipts from War Department for expense incurred for Training Detachment.....	\$24,409 57	
Interest . . . . .	1,414 73	
Experiment Station—		
Sales and service . . . . .	\$4,914 99	
Interest . . . . .	143 34	
	<hr/>	\$5,058 33
		<hr/>
		\$30,882 63
Total income . . . . .		<hr/>
		\$203,095 81

## Receipts from tuition:

Students taking course of one year or more.....	251
Students paying tuition (non-resident in Rhode Island).....	46
Amount of tuition paid . . . . .	\$1,272 50

## EXPENDITURES.

## Expenditures, exclusive of Experiment Station and Extension Service:

Advertising . . . . .	\$1,467 29
Apparatus . . . . .	1,747 89
Boarding . . . . .	23,996 19
Books and periodicals . . . . .	623 84
Commencement . . . . .	144 07
Construction and repairs . . . . .	7,447 53
Dormitory and land rental . . . . .	2,505 37
Electric current furnished from outside college... .	264 96
Entertainment . . . . .	309 50
Feed . . . . .	3,824 34
Fertilizer . . . . .	514 00
Freight and express . . . . .	420 53
Fuel . . . . .	14,343 43
Furniture . . . . .	313 64
Gasolene . . . . .	1,526 25
Labor (engineers, poultrymen, farm. etc.).....	13,320 75
Labor (undergraduate, exclusive of boarding department). . . . .	7,095 80
Laboratory supplies . . . . .	3,706 85
Live stock . . . . .	710 73
Postage, stationery and printing.....	1,472 51
Salaries . . . . .	61,252 29
Seeds . . . . .	169 13
Stable and auto supplies . . . . .	635 96
Store . . . . .	4,735 11
Telephone and telegraph . . . . .	584 22



Tools and machinery .....	5,924 38	
Traveling .....	1,677 68	
Miscellaneous, including expense incurred for maintenance of Training Detachment.....	12,983 00	
	<hr/>	\$173,717 24
Expenditures, Experiment Station . . . . .		35,471 51
Expenditures, Extension Service . . . . .		11,925 30
		<hr/>
Total expenditures . . . . .		\$221,114 05

## SUMMARY OF BALANCES, JULY 1.

Morrill Fund of 1862.....	.....	.....
Morrill Fund of 1890.....	.....	.....
Smith-Lever Fund, Extension Service.....	.....	.....
Hatch Fund, Experiment Station.....	.....	.....
Adams Fund, Experiment Station.....	.....	.....
State—Maintenance . . . . .	\$15,797 75	\$11,429 84
State—Repairs and Improvements . . . . .	314 42	.....
Current Fund . . . . .	3,079 49	Dr. 10,169 55
Trust Fund . . . . .	Dr. 2,637 47	Dr. 2,311 46
Miscellaneous—Experiment Station . . . . .	2,757 61	2,344 43
Reserve Fund . . . . .	2,000 00	2,000 00
	<hr/>	<hr/>
	\$21,311 80	\$3,293 26